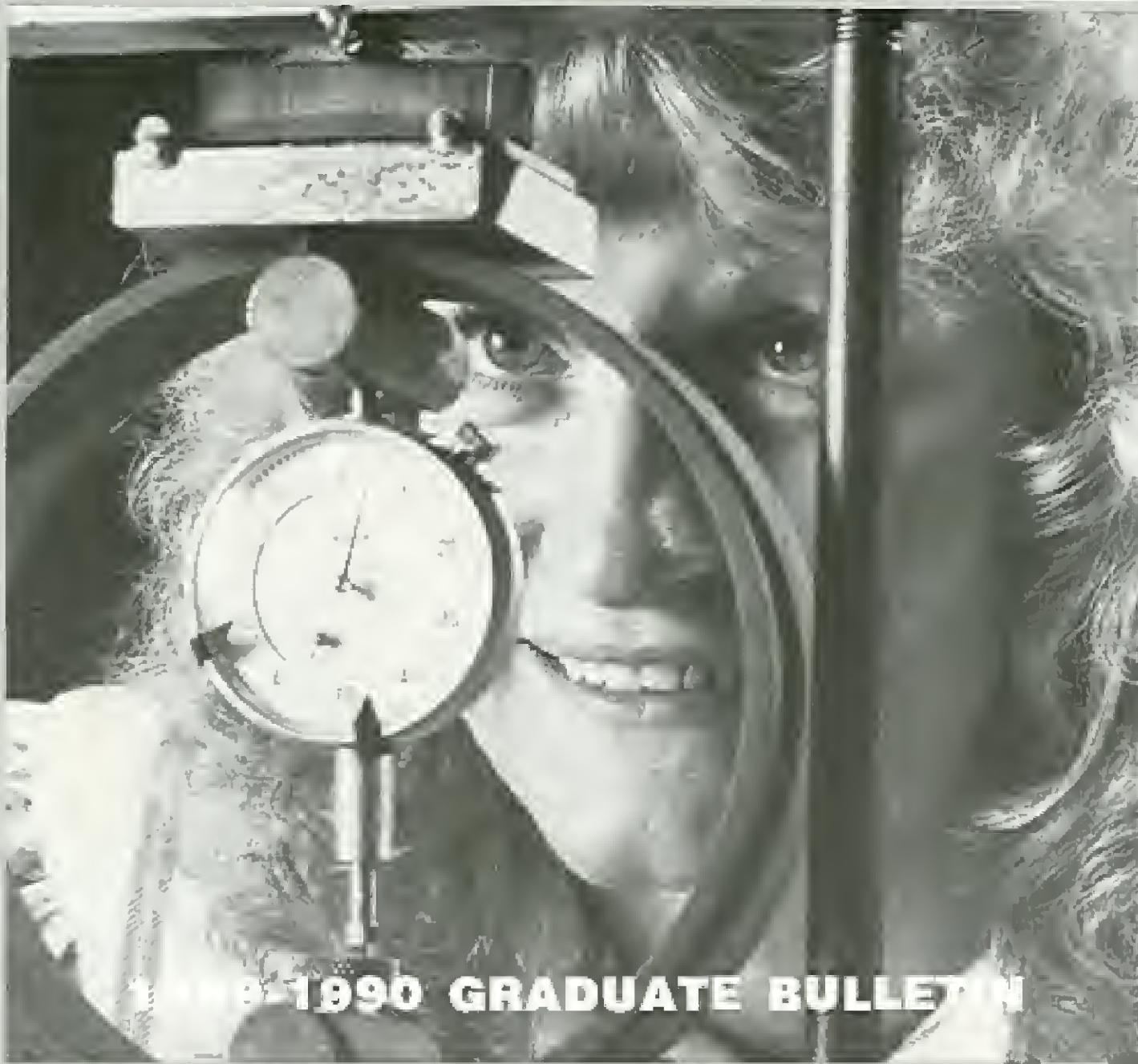


Where  
Careers  
Begin

# UW-Stout



1990 GRADUATE BULLETIN



# Graduate Bulletin

## Catalog of Courses 1989-90

### University of Wisconsin-Stout Menomonie, Wisconsin 54751

Volume 66

#### DEDICATION

This edition of the Graduate Bulletin is dedicated to Dr. Robert S. Swanson, Chancellor of University of Wisconsin-Stout, September 8, 1972 to March 20, 1988. Prior to becoming Chancellor, Dr. Swanson served as Dean of the Graduate College from June 1, 1966 to September 8, 1972. During his tenure as Dean, five Master of Science degree programs and two Education Specialist programs were added to Stout's offerings, and 1,265 graduate degrees were awarded.

AN EQUAL OPPORTUNITY AND  
AFFIRMATIVE ACTION UNIVERSITY

While this bulletin was prepared according to the best information available as of April 1988, all information regarding fees, admission, graduation requirements and course offerings is subject to change. Graduate College phone: 715/232-2211.

# Graduate Administration

Charles W. Sorenson	Chancellor
Augustana College, A.B.; Illinois State University, M.S.; Michigan State University, Ph.D.	
Wesley L. Face	Vice Chancellor
Northern State College, B.S.; University of Wisconsin-Stout, M.S.; University of Illinois, Ed.D.	
Nelva G. Runnalls	Dean for Academic Development
Kearny State College, B.S. Ed.; Mankato State College, M.S.; University of Missouri, Ph.D.	
Robert Sedlak	Assistant Dean for Graduate Studies and Curriculum, and Assistant Dean for Research
California State College of Pennsylvania, B.S.; Pennsylvania State University, M.Ed., Ph.D.	

## SCHOOL OF INDUSTRY AND TECHNOLOGY

M. James Bensen	Dean
Bemidji State University, B.S.; University of Wisconsin-Stout, M.S.; Pennsylvania State University, Ed.D.	

### Programs—Master's Degrees

Industrial Education	Richard F. Peter
Holy Cross Seminary, B.A.; Colorado State University, M.S.; Ohio State University, Ph.D.	
Management Technology	Zenon T. Smolarek
University of Wisconsin-Stout, B.S., M.S., D.I.T., University of Northern Iowa	
Media Technology	David L. Graf
University of Wisconsin-Oshkosh, B.S.; University of Wisconsin-La Crosse, M.S.; University of Nebraska, Ed.D.	
Safety	John H. Olson
University of Wisconsin-Platteville, B.S.; University of Wisconsin-Stout, M.S.; University of Minnesota, Ph.D.	
Vocational Education	Howard Lee
University of Wisconsin-Stout, B.S., M.S.; University of Minnesota, Ph.D.	

### Programs—Education Specialist's Degree

Industrial and Vocational Education	Howard Lee
University of Wisconsin-Stout, B.S., M.S.; University of Minnesota, Ph.D.	

## SCHOOL OF HOME ECONOMICS

J. Anthony Samenfink	Dean
Middlebury College, B.A.; University of Rochester, M.Ed.; Florida State University, Ed.D.	

### Programs—Master's Degrees

Clothing, Textiles and Related Art	Judith Ann Rolland Herr
University of Wisconsin-Stout, B.S., M.S.; University of Minnesota, Ed.D.	
Food Science and Nutrition	Janice Timmer
Northern Arizona University, B.S.; North Dakota State University, Ph.D.	
Home Economics Education	Judith Ann Rolland Herr
University of Wisconsin-Stout, B.S., M.S.; University of Minnesota, Ed.D.	
Hospitality and Tourism	William Gartner
Michigan State University, B.S.; University of Delaware, M.S.; Michigan State University, Ph.D.	

## SCHOOL OF EDUCATION AND HUMAN SERVICES

Edwin L. Biggerstaff	Dean
North Texas State University, B.S., M.S., Ed.D.	

### Programs—Master's Degrees

Education	Eugene R.F. Flug
University of Minnesota, B.B.A., B.S., M.A., Ph.D.	
Guidance and Counseling	Gerald F. Davis
LaCrosse State College, B.S.; University of Wisconsin-Stout, M.S.; United States International University, Ed.D.	
Marriage and Family Therapy	Charles P. Barnard
University of Wisconsin-Superior, B.S., M.Ed.; University of Wyoming, Ed.D.	
School Psychology	Calvin L. Stoudt
West Chester State College, B.S.; Temple University, M.Ed.; University of Wisconsin-Madison, Ph.D.	
Vocational Rehabilitation	Shirley Stewart
University of Wisconsin-Stout, B.S., M.S.	

### Programs—Education Specialist's Degree

Guidance and Counseling	Carlyle W. Gilbertson
Luther College, B.A.; University of Wisconsin-Madison, M.S., Ph. D.	

## SCHOOL OF LIBERAL STUDIES

Gerina Dougherty ..... Dean  
College of St. Teresa, B.A.; St. Mary's College, M.A.; Université Laval, M.A.; Ph.D.

## LEARNING RESOURCES

Harry A. Herbig ..... Dean  
Bowling Green State University, B.S.; University of Wisconsin-Stout, M.S.; Indiana University, Ed.D.



# CONTENTS

## 5 GENERAL INFORMATION

- 7 Admissions and Degree Progress
- 12 Fees
- 13 Student Services

## 16 DEGREE PROGRAMS

### 16 INDUSTRY AND TECHNOLOGY

- 16 Industrial/Technology Education (MS)
- 19 Management Technology (MS)
- 21 Media Technology (MS)
- 23 Safety (MS)
- 25 Vocational Education (MS)
- 28 Industrial and Vocational Education (Ed.S.)

### 34 HOME ECONOMICS

- 34 Clothing, Textiles and Related Art (MS)
- 37 Food Science and Nutrition (MS)
- 40 Home Economics Education (MS)
- 43 Hospitality and Tourism (MS)

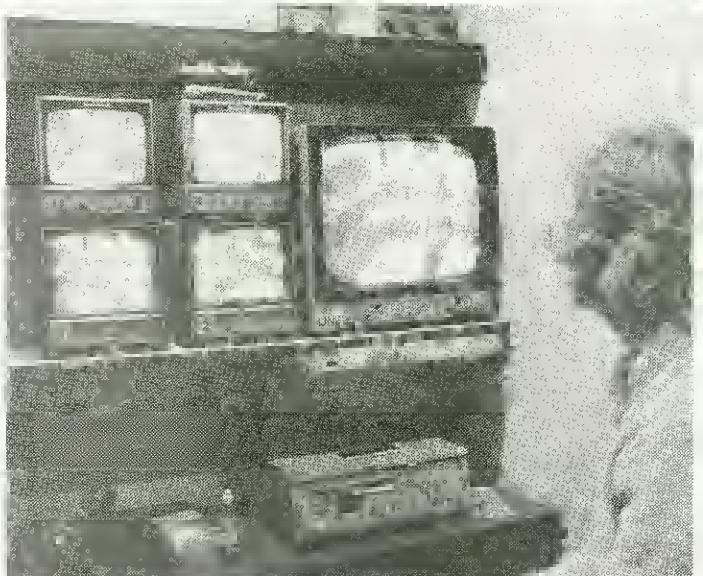
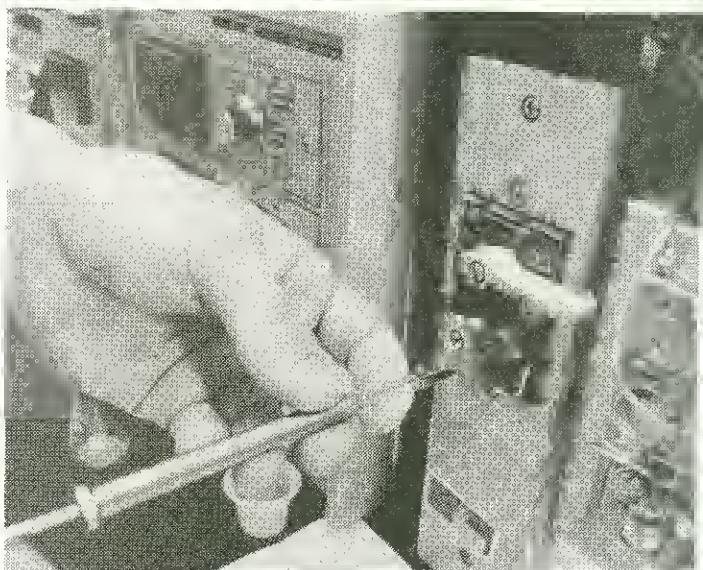
### 45 EDUCATION AND HUMAN SERVICES

- 45 Education (MS)
- 46 Guidance and Counseling (MS)
- 50 Marriage and Family Therapy (MS)
- 52 School Psychology (MS)
- 55 Vocational Rehabilitation (MS)
- 58 Guidance and Counseling (Ed.S)

## 61 COURSE DESCRIPTIONS

- 61 Industry and Technology
- 70 Home Economics
- 76 Liberal Studies
- 79 Education and Human Services

## 87 GRADUATE FACULTY



# GENERAL INFORMATION

## WELCOME

Choosing a graduate school is a critical decision. In deciding to enter graduate study, you have joined a small group within our society who, by demanding more of themselves, have made greater contributions. Graduate education will alter the values and perceptions which influence the remainder of your life, as well as the progress of your career. You will invest important days and hours of your lifetime, as well as a considerable amount of your resources, in increasing your own capabilities. Graduate programs and graduate schools differ in many important ways. I encourage you to examine this bulletin carefully and consider whether the purposes, philosophies and growth environment at the University of Wisconsin-Stout make this University the best choice for you.

Stout is the second oldest graduate institution in the UW system, having celebrated its 50th anniversary of offering graduate work during the 1985-86 academic year. Only Madison, which was designated as a graduate institution in the state constitution, has a longer history. More than 7,000 students have graduated from 14 master's degree programs and two education specialist degree programs.

Stout is a special mission institution. We offer a limited number of degree programs; all of these programs are in areas of high societal need and all in major thrust areas of the University. Each program has a strong basis of faculty expertise. Each program includes a component of professional studies and a component intended to develop student abilities to search out new knowledge. Each master's degree program includes learning experiences in the immediate professional setting. Provisions for monitoring student progress are made through Primary Evaluation Processes specified for each program. Students are assisted in planning and encouraged to set individual professional goals.

We expect each graduate to be prepared to advance in a profession, to contribute to that profession, and to have a foundation for continued individual development and growth.

If you are interested in exploring further the nature of Stout's programs and offerings, please contact the director of the program in which you are interested. You may also write directly to the Graduate College, Room 422, Bowman Hall, UW-Stout, Menomonie, WI 54751 for additional information.

Nelva G. Runnalls,  
Dean for Academic Development

## THE UNIVERSITY

Stout is one of 13 publicly supported universities in the University of Wisconsin System. It was founded as a private institution in 1893 by James H. Stout. A Menomonie industrialist and a man of great vision, he saw that students in America's developing industrial society needed a different kind of education, an education broader than that offered by the traditional curriculum. Since its founding, Stout has gained a position of national and international leadership in industrial, vocational and home economics education. Its programs in those fields are among the largest in the world. From this beginning, strong programs in the areas of man's relation to technology, vocation and society have been established. Although Stout is a career oriented university, its leaders have had the foresight to make the humanities and social sciences key parts of the total educational program.

## MISSION

Stout makes a unique contribution to the University of Wisconsin System by concentrating its efforts in those higher education programs directly related to industry and technology, home economics, business, the helping professions and applied arts. Concentration within these selected areas enables the University to develop and offer highly specialized instruction in great depth. Recognizing the interdependence of knowledge in all areas and the need to humanize, individualize and personalize all aspects of student life, the University seeks to complement its specialized education with broader learning experiences and opportunities essential for personal, professional, esthetic and social effectiveness.

## THE FACULTY AND STAFF

Because Stout has specialized in certain areas, a staff comprised of individuals nationally recognized in their fields has been developed. Classes are taught by highly qualified professionals. Of the more than 400 members of the instructional faculty and staff, well over one-third hold earned doctorate degrees, while others hold special degrees in their fields. One of the fine traditions at Stout has been the faculty and staff commitment to provide extra help to students.

## FACILITIES

Modern and well-equipped facilities mark Stout's 118-acre campus. Eight major classroom, laboratory and library facilities have been constructed or extensively remodeled since 1970. The new facilities are the Home Economics Building, the Applied Arts Building, the Library Learning Center, Harvey Hall, Bowman Hall, Vocational Rehabilitation Institute, the Communication Technologies Building and a major addition to the Physical Education Building. Also new is the Memorial Student Center.

A total of 42 labs encompassing more than 130,000 square feet for technical work in electronics, power, wood, metals, graphic arts, packaging, industrial design, industrial graphics and plastics are available for industrial technology, and industrial and vocational education majors. A newly remodeled facility, providing laboratories for industrial graphics and photography courses, was opened in 1987.

A home economics building, opened in 1973, offers advanced research and laboratory facilities in fields of food science and nutrition, hotel and restaurant management, tourism, consumer education, fashion merchandising, textile and fashion design, child development and family life, and home economics education.

The newly remodeled Stout Vocational Rehabilitation Institute is a model facility. Research and practicum experience in work evaluation, placement services, and professional assessments to clients referred by state agencies are among the many professional activities conducted by faculty and students.

A counseling center with videotape equipment is available for use in the guidance and counseling, and school psychology programs.

## LEARNING RESOURCES

Learning Resources provides services to assist instructional communications and the learning process. This service is divided into four functional units.

The Library Learning Center has an integrated audiovisual and print resource collection consisting of 191,415 volumes; more than 1,455 periodicals, 7,035 audiovisual items and 693,620 microformats. An interspersed stack/seating arrangement of 1,060 user stations is featured. Specialized collections of national prominence in Stout's major fields of graduate study and a complete collection of ERIC (Educational Resource Information Center) documents on microfiche are maintained. On-line computerized literature searches for 400 specialized data bases are offered free of charge to students and faculty. Electronic indexes (CD-ROM and laser disks) are also available for on-site access to InFoTrac, ERIC and Psych-

Lit information data bases. The library is open 95 hours per week. A media self-instruction laboratory provides students with facilities and equipment for learning media equipment operations and for producing basic audiovisual materials. A 50 work-station campus computing laboratory is available. The facility is equipped with microcomputers, a hard-disk server, printers and terminals connected to time-sharing computers. Many microcomputers are also available for student use in the self-instruction laboratory.

Academic Computer Services provides computer support for graduate student and faculty research. Services provided include statistical consulting, programming assistance, data preparation for statistical analysis and optical scanning of mark-sense forms. A Digital Equipment Corporation VAX II/780 is available for on-line computation, with terminals located in classroom buildings, the Library Learning Center and all residence halls. Dial-up access is provided for remote use. All services are provided free for graduate student unfunded research.

Instructional Technology Services is housed in the Communications Center. Professional media specialists provide Stout staff and students with consultation in areas of instructional development, media design, utilization, media equipment and facilities; production of still and motion picture photography, graphics, instructional television, and audio recording; and maintenance of most media equipment, computer terminals and microcomputers.

The Stout Teleproduction Center produces television programs for broadcast on the Wisconsin Public Television Network, and for other state educational organizations and non-profit agencies.

## THE GRADUATE COLLEGE

**Accreditation:** The graduate program at Stout is fully accredited by the North Central Association of Colleges and Secondary Schools (NCA) and the National Council for the Accreditation of Teacher Education (NCATE) to offer work at the master's (fifth year) and Education Specialist (sixth year) levels. The Marriage and Family Therapy program is accredited by the American Association of Marriage and Family Therapists.

**Institutional Memberships:** The University of Wisconsin-Stout holds membership in the Midwest Association of Graduate Schools and the Council of Graduate Schools in the United States.

**Organization:** The Graduate College, a unit of the Division of Academic Affairs, is responsible for graduate education in the University. The Graduate College administers graduate admissions, graduate

assistantships, records, policies and other procedures relating to graduate students. The Graduate College includes, in addition to its administrative personnel, the Graduate Office, which provides services to graduate students, and Research Promotion Services, which is responsible for encouraging, promoting, coordinating and monitoring research at the University.

A Graduate Council and a Graduate Student Advisory Council provide advice to the college. The Graduate Council is chaired by the Dean for Academic Development. The work of the Council is aided by a graduate committee, a committee on exceptions to graduate college policy and other committees as needed. Membership on the Graduate Council includes the graduate program directors, 10 members elected from the Graduate Faculty, the president of the Graduate Student Advisory Council; the Associate Dean for Graduate Studies and Curriculum, and the Dean for Academic Development, who is the Council Chair. A representative of the Faculty Senate is invited to all Council meetings.

The Graduate Student Advisory Council includes one student from each graduate program. The chair is elected by the group. In addition, during the summer term, the Graduate Student Club holds four informal meetings for graduate students and faculty.

School	Graduate Degree Programs
Industry and Technology	M.S. in Industrial Education M.S. in Management Technology M.S. in Media Technology M.S. in Safety
Home Economics	M.S. in Vocational Education Ed.S. in Industrial and Vocational Education M.S. in Clothing, Textiles and Related Art M.S. in Food Science and Nutrition M.S. in Home Economics Education
Education and Human Services	M.S. in Hospitality and Tourism M.S. in Education M.S. in Guidance and Counseling M.S. in Marriage and Family Therapy M.S. in Ed. - School Psychology M.S. in Vocational Rehabilitation Ed.S. in Guidance and Counseling

**Functions:** Stout serves three broad functions: instruction, service and research. As a part of the University, the Graduate College contributes to each function.

**INSTRUCTION:** The University offers programs for the preparation of professional personnel in the schools and areas listed. Common to all programs is the development of competencies in applied research. Continuing education beyond the bachelor's level for other than degree purposes is also a part of the college function.

**SERVICE:** The service function involves consultation to education, business and industry in the areas of the

graduate degree programs. Included also are such activities as sponsored workshops, publications, surveys and research, and participation as committee members and officers in appropriate local, state and national organizations.

**RESEARCH:** Research and scholarship by the faculty and staff are encouraged to constantly add to the bodies of knowledge on which degree programs are based. Studies of teacher education problems, technological developments, curriculum development procedures, field surveys, and

experimental projects are reported in professional literature and to professional organizations. Consultation on research design is offered. Through the office of Research Promotion Services, research activities of the University are encouraged and coordinated.

**Graduate Faculty** for the graduate programs are those members of the University faculty who conduct the primary student progress evaluations for that program, either as individual faculty members or by membership on faculty

committees. Course grades and the "Creative Intellectual Inquiry Experience" are primary evaluation processes for each graduate major at Stout. In addition, for selected programs, certain courses or other review procedures may also be specified as Primary Evaluation Processes. Graduate faculty are recommended by the School dean and approved by the Vice Chancellor. They are listed in the program section of the bulletin with the programs they serve.

## ADMISSIONS AND DEGREE PROGRESS

### ADMISSION PROCEDURES

Students seeking graduate credit (either for degree or non-degree programs) should apply for permission to enroll at the Graduate Office.

**DEGREE PROGRAM STUDENTS.** For students who seek admission to a graduate program (those seeking degrees or certification at Stout) the procedure is as follows:

1. **State of Wisconsin regulations** require submission of a \$20.00 non-refundable admission evaluation fee by all candidates for admission to the Graduate College. Please attach a check or money order, made out to UW-Stout, in the amount of \$20.00, to the admissions application.
2. **Apply for admission**, using the Application for Admission 104-0111, available from the Graduate Office. Application should be made 30 days in advance of registration. (See specific program for any program-related deadlines.)
3. **Request official transcripts** of all previous college work be forwarded to the director of Graduate Admissions by the registrar of college(s) where the work was completed.
4. **Supply supportive statements** of qualifications for graduate study as required by specific programs. See program outlines.
5. **Students from countries** where English is not the primary language must submit an official TOEFL score.
6. **Declaration of finances** must be filed by each international student to show that financial support during the planned period of study is adequate.
7. **Students whose graduate work** is being supported by an agency and/or government must present written evidence of approval by that agency or government for the degree program being requested.

**GRADUATE SPECIAL STUDENTS.** For non-program students (graduate specials) seeking only permission to enroll for graduate courses, the procedure is as follows:

1. Complete only the indicated part of 104-0111, available from the Graduate Office.
2. Submit Registrar's Form (104-0114) available from the Graduate Office, certifying that the student has earned a bachelor's degree from a four-year, regional accredited college or university.
3. Students from non-English speaking countries must submit an official TOEFL score.

A student dropped from a graduate program is not eligible to enroll for graduate credit at Stout.

Graduate special students may take 500 and 600 level courses. For 700 level course work, they should consult with the graduate student special adviser with respect to credit work for which they may be eligible. Practicums, internships and some courses are reserved for admitted candidates to degree programs. Non-program students may not enroll for courses which are designed to fulfill the creative intellectual inquiry requirement for any graduate program at Stout.

Graduate special students who later desire to become degree program students must make application for admission to the Graduate College using the usual processes to determine their admissibility. Graduate work taken as a graduate special student, if deemed appropriate to the degree program by the director of the program for which the applicant is seeking admission, may be used as a part of that degree program.

Those students enrolled in graduate programs at other colleges who wish to earn graduate credit for transfer to those programs follow "graduate special students" procedures.

### ADMISSION STATUS FOR PROGRAM STUDENTS

Admission requirements for some programs may be higher than requirements for the Graduate College. Graduate College admission requirements are:

**FULL STATUS** is granted an applicant for a master's degree program who has an undergraduate grade point average of at least 2.75 (based on a four-point scale) and has the required pattern of background preparation. Note: Upon written request for evaluation of G.P.A. calculation for the last two years, an applicant with a grade point average of at least 2.90 for the last two years of bachelor's degree work will be granted full status even though the four-year record is below 2.75. Applicants for an Ed.S. program must have earned a master's degree grade point average of 3.25 to be granted full status.

**PROBATIONAL STATUS** is granted a master's degree applicant having an undergraduate grade point average of less than 2.75, but not less than 2.25. An Ed.S. degree applicant with a master's degree grade point average between 3.00 and 3.25 may be admitted on probational status.

**PROVISIONAL STATUS** may be granted a program applicant having a qualifying grade point average but who does not have the pattern of background preparation required by the requested program. Such a student will be required to make up undergraduate deficiencies and/or take additional graduate course work to earn the degree.

**TRIAL STATUS** may be granted a master's degree applicant having less than a 2.25 grade point average in undergraduate work if records of work experience or other supplemental information are judged by the Graduate College to justify such admission. Such a student must take a block of course work prescribed by the program director in which an average of "B" or better must be earned to gain admission to the program on probation. Work earned on trial status will normally be in addition to the usual degree requirements.

**DUAL-LEVEL STATUS** of undergraduate-master's degree or master's-specialist degree may be granted an applicant who is in the last term of undergraduate work, needing less than a full load to earn the

bachelor's degree or who is in the last term of master's degree work, needing less than a full load to earn the master's degree. Such a student is limited to a total of 16 credits per semester. A dual-level program student may be admitted on probational or provisional, but never on trial status. Dual-level program students are eligible only as program students.

**NOTIFICATION:** Each applicant will be informed generally within 30 days of receipt of all needed materials as to acceptance or rejection. Applicants to programs with application deadlines, will be notified within 30 days after the deadline. Program students will, if accepted, be informed as to the status granted. (Non-program students permitted to enroll for graduate courses without admission are not given any status designation.) Those applicants denied admission will be so informed. Generally, denial will be due to one or a combination of the following:

1. Too low previous scholastic record.
2. Lack of adequate evidence of, or insufficient background preparation and/or experience.
3. Failure to submit requested materials and/or submission of fraudulent records.
4. When the total number of qualified students applying for a program exceeds the number that can be accommodated.
5. For international students, inadequate TOEFL score, inability to present documentation of adequate financial support for the period of study, or, if applicable, failure to provide evidence of sponsoring agency or government approval for degree program sought.

**TERM OF VALIDITY OF ADMISSION.** Admission to the Graduate College will be granted for a particular term of enrollment. Admitted applicants may begin their graduate study (first enrollment) in any of the following three consecutive academic terms. Applicants who are granted admission, but who do not initially enroll before two semesters or one summer session have passed, beginning with the term for which admission was granted, must reapply to be eligible for subsequent admission. Such reapplication for admission will not require payment of an additional application fee if reapplication is within five years of original admission date. Through appropriate approval procedures, individual programs may further restrict the length of admission policy. An academic term is either Semester I, Semester II or Summer Session.

## DEGREE PROGRESS

Procedures are developed to facilitate orderly progress toward the degree. Each student is assigned an adviser who aids in making plans, but initiation of each step is

the responsibility of the student. A chart summarizing various details is in the front of this bulletin for reference.

**Admission:** Admission to a degree program is based on two types of criteria: (1) academic promise, as shown by scholastic success in previous accredited college work, scores on standardized tests, personal interviews with the student, statements from individuals who have knowledge of the student's ability. (2) appropriateness of background for advanced study in the area as shown by the pattern of course work completed previously and statements certifying practical experience. Once the student has been admitted to the program, it is the University's intention to provide aid in progressing toward the degree, while at the same time evaluating the students' progress. In certain cases, progress checks may show that it is desirable for the student to modify the plan or discontinue his or her program.

**Program Plan:** Requirements for each program are outlined in this bulletin; the student should study them and plan a schedule accordingly. At the first enrollment, each student will make a program plan sheet with the adviser; this may be revised subsequently but should serve as a guide to each enrollment.

**Examinations:** A qualifying examination, generally prior to or as a part of degree candidacy, may be required in specific degree programs.

**Registration for Classes:** Opportunity to register for classes is provided through a continuous registration process at least two to three months in advance of the start of each term. Classes are chosen in consultation with the graduate program director or assigned program adviser. The student should carefully check the proposed enrollment against the program plan for the degree. The graduate adviser signature is required on the registration of each graduate student.

**Course Add/Drop Policy:** Students who do not attend the first class meeting of a course, and who do not notify the instructor or department chairperson that they will be absent for special reasons, may, at the instructor's option, be dropped from that course *if and only if* other students are waiting to enroll *at that time*.

Students who wish to adjust their class schedules may add or drop classes during the "Add Period." The dates are listed in the schedule book each term.

Failure to attend class or merely giving notice to instructors will not be considered an official drop and will result in the student receiving failing grades.

Drops made during the first two weeks of semester courses or first week of quarter courses will not appear on a student transcript. Drops after this time, but before the midterm date will appear on the student's transcript with a "WS" or "WU".

Lab fees will not be refunded for a drop after the first week.

Students are expected to complete courses for which they register. However, if a student deems it necessary to reduce his or her program after the normal (two week) Add/Drop period, he or she should do so as early as possible.

A mark of "WS" or "WU" is given by the instructor and recorded on the student transcript for a course dropped after the add period of a semester or quarter course but before the midterm date.

After the midterm date (as indicated in the university calendar), any withdrawal from a course is recorded as an "F". If extenuating circumstances warrant other consideration, an appeal may be made to the instructor of the course.

Students who register for a course but do not attend the class and do not officially withdraw are given a mark of "F" except as noted in the attendance policy.

**Periodic Evaluation of Scholastic Standing:** At the conclusion of each term, an evaluation of scholastic status will be made according to the following schedule:

Status at		Cumulative		New
Beginning	of Term	for Term	G.P.A.	Status*
Full	3.00-4.00	3.00-4.00	Full	
	0-2.99	3.00-4.00	Full	
	0-2.99	0-2.99	Probation	
Probation	3.00-4.00	3.00-4.00	Full	
	3.00-4.00	0-2.99	Probation (cont.)	
	0-2.99	0-2.99	Drop**	

\*New status will generally be assigned only when at least six credits have been completed beyond total on which previous status was based.

\*\*Specific reaction from program directors required.

All course work taken at the graduate level is counted in the graduate grade point average.

**Periodic Review of Professional Promise:** Because scholastic achievement is only one factor in professional success, the program director may arrange for the staff who have had appropriate contact with the student periodically, to review his or her professional promise. Especially in cases where such professional promise is questioned, the program director and appropriate faculty will discuss an improvement program with the student. Certification for degree candidacy and graduation may involve evaluation of this kind in addition to scholastic attainment.

**Academic Progress Policy:** Graduate students attempting nine or more credits in any semester or summer term must satisfactorily complete at least six semester credits to be considered as making appropriate academic progress. See the current edition of the Stout Student Handbook for more complete details.

**Degree Candidacy:** Degree candidacy is a means of defining the student's total degree plan and evaluating progress toward that goal. Full-time students will apply for degree candidacy by the end of their first term of enrollment. Part-time students will apply when six credits of graduate work at Stout have been completed. Candidacy application forms and specific directions are available in the Graduate Office. Candidacy is applied for by the student, recommended by the program director and awarded by the Graduate College.

Upon approval of degree candidacy, candidates will be billed for a non-refundable graduation fee of \$30.00. This fee is for diploma, diploma cover and other commencement costs. This fee does not cover cap and gown costs.

**Research Project:** Each degree program requires a creative intellectual inquiry component. The student should confer with his or her adviser early in the program to allow ample time and preparation for completion of an appropriate project.

**Human Subjects Protection:** All graduate student research involving human subjects must undergo a review of the research procedures to assure that the planning for the protection of these subjects is adequate. Federal legislation requires the assurance of protection of human subjects involved in research before data can be gathered.

**Library Copy:** Each student submits the report of his or her creative intellectual inquiry experience to the Graduate Office for final approval and acceptance. Such report must be in accordance with the standards published in the respective Administrative Procedures for the report. Copy submitted must be on 16 pound or heavier paper. Original copy may be produced by typewriter, word processor or by computer. In any case, standard type styles and sizes such as pica or elite must be used. The type style of dot matrix printers must have true descenders. Copy must be equivalent to the blackness of copy produced on a typewriter with clean type and a good grade of carbon black ribbon. Under such circumstances dot matrix printing will be accepted. Thermal printing will not be acceptable.

**Limited Access to Research Reports:** The usual procedure is to make research re-

ports available through the library in the spirit of free exchange of educational information. If recommended by the research adviser, the report of creative intellectual inquiry may be withheld from Library Learning Center circulation for a period of twelve months. If, in addition to the research adviser's recommendation, it is approved by the Graduate Committee, withholding may be for any period of 24 months. In no case will the withholding from circulation be permitted beyond a period of 24 months.

**Intent to Graduate:** Students are awarded degrees at the end of the first and second semesters and the summer session. Students planning to finish degree requirements within a given term should file a Graduate Application for Degree card available in the Graduate Office within the first two weeks of the term in which graduation is anticipated.

**Graduation Ceremonies:** A graduation ceremony is held at the end of each semester and the summer session. Instructions for graduation may be picked up at or requested to be sent from the Student Services Office by persons who have filed a Graduate Application for Degree card and who expect to complete all degree requirements that term.

**Date of Record of Graduation:** Graduate students will be recorded as having graduated in the academic term in which all degree requirements are completed, including the filing of the signed and approved copy of the Creative Intellectual Inquiry Experience Report in the Graduate Office. The academic terms are defined as being over on the last day of Semester I in December; the last day of Semester II in May; and the last day of Summer Session in August. Graduate research advisers who supervise reports will need adequate lead time for reading both prior to and after final typing of the report. Students should inquire of their research adviser about appropriate lead time to permit adequate adviser review prior to the planned completion date.

**Award of the Degree:** After all grades and credits have been recorded (usually from four to eight weeks after the end of each semester or summer session), the student's transcript will be checked to determine that program requirements have been met with an overall grade point average of at least "B" (3.0) or, 3.25 for Ed.S. candidates. The student will be mailed the diploma and, if requested, a complete transcript certifying his or her degree. Students needing such certification for salary purposes prior to the official statement may request a letter from the associate dean for graduate studies and curriculum.

## ACADEMIC INFORMATION

**Academic Calendar Year:** The University's academic year is divided into two semesters. Each semester is also divided into two nine-week quarters. The student should recognize that the Stout designation of a quarter represents only one-half a semester and should not be confused with the quarter system in many universities which is 12 weeks in length. Courses scheduled on the quarter basis at Stout meet twice as often each week as courses scheduled on the semester basis for the same credit. Credit hours are awarded on a semester credit hour basis for courses scheduled on either basis.

**The Summer Session:** Each year, Stout offers a summer session approximately 10 weeks in length. The regular eight-week summer session begins about the second week in June. A two-week pre-session may also be available. Stout is also offering courses within and before the regular eight-week session of varying lengths of time so that a combination of one, two, three or five week courses may be taken.

Credits may be earned at the rate of one semester hour per week of attendance. This makes it possible to earn as many as 10 credits during a summer if attendance is for the entire 10-week summer session. Because of the large number of graduate students in attendance during the summer, many of the graduate level courses are offered each summer. The Summer Session Bulletin is published each April. It contains complete information about offerings, class schedules, enrollment procedures, degree programs and housing. Upon request to the director of Continuing Education and Summer Session, a copy will be sent.

**Grading System:** Effective fall 1988, the Graduate College will use this grading plan:

Grade	Grade Point Value	Description
A	4.00	Exceptional achievement at the graduate level
A-	3.67	
B+	3.33	
B	3.00*	Satisfactory graduate level work
B-	2.67	
C+	2.33	
C	2.00	Credit worthy, but less than expected graduate level work
D	1.00	Graduate work at a level unacceptable for application to a graduate degree program or a certification program at UW-Stout
F	0.0	Failure

Only courses with a "C" grade or better may be applied to a graduate degree program at Stout.

No student may use the "S" (Satisfactory) or "U" (Unsatisfactory) system or Pass/Fail system for any course in a graduate program.

An "incomplete" may be given for failure to complete course work due to absence over which the student has no control. Incompletes not cleared within a year after the course would normally have been completed are sent to the appropriate department for change of grade. If the grade is not changed, the "I" is changed to "F"; to receive credit after that time, the student must re-register for the course.

The grade "IP" (In Progress) may be given for research papers, theses, independent study, internship and field experience. This grade indicates that the student has been in regular attendance but that additional time is required to complete course requirements. If the "IP" is not removed within two years, the student must re-register for the course.

**Textbooks:** Graduate students may supply their own textbooks. These may be purchased in the bookstore located in the Memorial Student Center or elsewhere as chosen by the student. An excellent Rental Resources Library is maintained, where graduate students may rent texts.

## GENERAL POLICIES

The following policies apply to all graduate programs at Stout (with a few exceptions noted):

**Number of Credits Required:** A master's degree program will require at least 30 semester credits. An Education Specialist program will require at least 36 semester credits beyond credits completed in the master's degree.

**Credits Required in Courses Open Only to Graduate Students:** All master's degree programs will require at least 15 credits in course work open only to graduate students; Education Specialist programs require at least 18 credits in this level of course work. In the University of Wisconsin System, such courses carry numbers between 700 and 899.

**Time Limits:** All credits toward a degree, including transfer credits, must be completed within the seven years prior to the awarding of the degree.

**Optimum Credit Load:** Graduate students may take a maximum of 16 credits a semester. Students with half-time assistantships are limited to a maximum of 12 credits a semester; quarter-time assistants are limited to a maximum of 14 credits a semester. During the summer session, the maximum credit load is one semester credit per week.

Graduate students enrolled at Stout who plan a concurrent enrollment at another institution of higher education are required to inform the Graduate College in advance. In such enrollments, the total

credit load is subject to the limitations described above.

**Transfer Credits:** A student planning to transfer graduate credits from another institution to a program at Stout should check with his or her program adviser in advance concerning applicability of the proposed work. A form (104-0124) to request transfer is available in the Graduate office. Transfer of credits is made only after admission to degree candidacy and is always based upon receipt of official transcripts showing completion of the credit requested.

On a program-by-program basis, a maximum of up to one-third of the total Stout semester hour requirements may be transferred from another accredited graduate college or university. These credits must be acceptable for graduate credit toward a graduate degree at the offering institution and must appear as a graduate course on a graduate transcript from the offering institution.

Such credit by transfer, to count toward a degree, must be judged by the program director to be appropriate as a required or elective course. Students who have been admitted to a program should get approval of the program director prior to taking such work.

**Continuing Education:** Graduate course work may be earned through Stout's Continuing Education program. That office offers a wide range of work, including graduate only (700-899 level) and other appropriate work awarded graduate credit. The student should consult the program director relative to appropriateness of such work for meeting the requirements of the program.

**Correspondence Work:** No credit toward a graduate degree will be allowed for correspondence work.

**Evaluation for Retention:** One measure of retention is earning a grade point average of at least 3.0 for the master's and 3.25 for the Ed.S. degree on all work needed to fulfill the degree requirements. A second measure of retention is to maintain "satisfactory academic progress." See the Stout Student Handbook for the Graduate Minimum Academic Progress Policy. Another measure of retention is through evaluation by the program director of the student's demonstrated potential for success in the field. In cases in which a student is recommended to be dropped, he or she shall have opportunity to be heard before such action is taken.

**Petitions:** In cases where exception to these policies or other regulations seems justified, a student may petition. Specific requests for exceptions to Graduate Policy may be presented in writing on Form 104-0132 available in the Graduate Office.

Such requests should be accompanied by a rationale which clearly states the compelling reasons which may justify exceptional consideration. Such requests, although addressed to the dean, are submitted in writing to the appropriate program director who makes his or her recommendation and forwards it to the Committee on Exceptions to Graduate Policy for further consideration. Notification of action on requests for exceptions to Graduate Policy is ordinarily received by the student from the appropriate program director. For "student rights and responsibilities," please see the current edition of the Stout Student Handbook.

Further detail on Graduate Policy may be seen in the latest edition of "Graduate Policies" available in the library, in each graduate program director's office, and by request from the Graduate Office.

## EXPECTED OUTCOMES OF THE GRADUATE RESIDENCY EXPERIENCE

Residence for purposes of graduate experiences refers to those experiences offered on campus and includes those experiences supervised or taught off campus by the resident faculty as part of their contractual load. As used in this sense, it is not related to the resident status for financial purposes based upon whether one is a resident of the state.

Among the traditional tools for maintenance of quality in graduate programs is the requirement for a period of full-time residence in the University community. The period of residency is expected to permit the following:

**Peer Group Interaction:** The student, during this period, has an opportunity to interact with a group of graduate students from diverse backgrounds who are engaged in the common pursuit of intellectual maturity, leadership capability and professional competence.

**Professional Role Models:** During this period, the student has an opportunity to observe the practices and attitudes of a number of scholarly role models. Techniques of interpersonal interactions, professional approaches and attitudes toward the disciplines may be observed. While other role models are readily available in professional settings, the scholarly role model may be less easily accessible outside of the University community.

**Opportunity for Reflection and Integration of Knowledge:** The process of achieving intellectual and scholarly maturity may be facilitated by the provision of adequate time for reflection and self-analysis. Ideally, the period of residency would provide a time during which the student is less committed to the objective requirements of employment and career develop-

ment, and permit focus of attention on personal and intellectual development.

**Access to Facilities:** For certain graduate learning experiences, access to laboratory facilities, to the expertise of personnel, to adequate library facilities and ready access to program and research advisement is necessary.

**Evaluation:** This period provides an opportunity for observation and evaluation continuously over a period of time, of the student's growth and capability. These observations and evaluations are made by several faculty members who are experienced evaluators of graduate students. The extended observation, the participation of several independent observers in the evaluation and the criteria established by individual faculty members after repeated interaction with a number of graduate students are important components of this evaluation process.

**Social Interaction:** The opportunity for interaction in an informal setting is provided for in a variety of informal settings by the University community.

Conferences, workshops, dances, picnics and homecoming activities are a few examples of activities that provide an opportunity for graduate students to interact informally with each other, faculty and staff. This provides both the student and faculty the opportunity to enrich themselves through informal interaction with each other.

**Quality Course Work:** The content, evaluation, standards and apparent effectiveness of learning experiences offered by regular members of the faculty on campus are potentially subject to continuous scrutiny by colleagues in the department. At initiation, as well as at other times when change is recommended, proposals for courses are examined by the University-wide curriculum committee. This opportunity for extended professional consider-

ation provides a nurturant atmosphere for the continuous development and improvement of excellent graduate learning experiences. Opportunities for integrating a variety of learning experiences which are complementary to the program are provided. Such professional interaction is characteristic of the scholarly community, and may be expected to enhance, over time, the quality of learning experiences offered by members of the University faculty.

**Residence Requirement:** Students may choose either of the following two options to meet the minimum graduate residency requirement. (Individual program policy may dictate additional requirements.)

Residency option 1: One term of residence in which at least six credits are earned on the Stout campus excluding the six credit thesis or the field study.

Residency option 2: Completion of a series of intensive, structured graduate seminars designed to meet expected outcomes of residency experiences. Students desiring this option should consult with their program director to determine the time and location of these seminars.

### **EXPECTED OUTCOMES OF LEARNING EXPERIENCE APPLIED IN THE IMMEDIATE PROFESSIONAL SETTING**

Traditionally, graduate education in the United States has been tightly controlled and offered entirely on campus. However, Stout has demonstrated that, with appropriate supervision, excellence can be maintained while integrating practical professional learning experience into the graduate program. Such learning experiences may be offered either on or off campus and are expected to permit the following:

**Application of Principles and Processes:** Students combine theory and practice

through direct application to existing work settings. This brings realism to the principles and processes that may not be so easily seen in an academic residency setting. The problems which may be studied are likely to be those in need of solution.

**Synthesize Theory from Practice:** It would seem more likely that students studying in the professional setting would have experiences which synthesize theory from practice than would be the case if the examples were provided away from the professional setting.

**Teacher-Practitioner as Role-Model:** Carefully chosen faculty for such learning experiences provide desirable role models of the professional in action. Attitudes of the faculty toward service, toward professional associations and toward other disciplines may be observed.

**Facilities:** In some cases, facilities in professional settings may be more extensive and more up to date than would be possible within a college or university. Resources may be unique to certain professional settings.

**Evaluation:** Evaluation in the professional setting is potentially reliable. The student-practitioner is close to the day-to-day realities of given problem settings. Some students may be more comfortable to be evaluated in the professional setting.

**Promotes Ease of Transition to Professional Careers:** Students who have studied in professional settings are more likely to move easily into that professional setting. Excellence in performance in the professional setting often alerts employers to excellent prospects for employment.

Students should consult with their program director for the experiences in their program which may be applied in the immediate professional setting.

## **SPECIAL STUDIES**

### **INDEPENDENT STUDIES PROGRAM**

Students may design special topic courses for credit through the University's independent study program. This program is open to students only during any enrollment or course-add period. Summer session enrollments are closed at the end of the fifth week of the eight-week session. Students may initiate the process by obtaining an application for independent study from the office of the assistant dean of the school in which this independent study is to be offered. The student selects a topic and completes the form. After a

topic area has been selected and approved by the appropriate department chairperson, a member of a Stout department is appointed study coordinator. Credits are awarded on the basis of expending a minimum of 48 hours of effort for each credit and on an evaluation of the extent to which the stated objectives were met. Independent study topics are those not offered through existing courses. Approved independent study courses are completed by the student in consultation with the assigned independent study coordinator who provides counsel and aid to the student in achieving the approved desired learning objectives.

Students should consult in advance with their program director to find out whether the proposed independent study may be used in the degree program.

### **FIELD EXPERIENCE PROGRAM**

Students in some graduate programs are encouraged to obtain part of their education program off the Menomonie campus through a special graduate level Field Experience program. This program allows a graduate student to receive academic credit for off-campus experiences and

study relating to his or her program while employed in an approved field position.

The graduate level part of the program has been specifically designed to aid inservic teachers, counselors and administrators in using summer work experience or supervised observation of business and industry to benefit their performance when they return to their jobs in the fall. Increased time credit towards vocational certification is possible in many situations for students employed in positions relative to their teaching field and enrolled in Stout's Field Experience program.

All necessary forms and reports can be handled by mail and a person enrolled need not be on campus. Application must be made prior to beginning work. Further information and application forms may be secured by contacting the office of the school dean in which school the course is offered.

### CREDIT BY EXAMINATION

Several procedures permit students to demonstrate their competence through examinations. Credit by examination is possible by "Test Out" procedures developed by various Stout departments. Students testing out of a course will be charged a testing fee.

### CONTINUING EDUCATION

The University offers a program of evening and Saturday morning classes as well as off-campus credit offerings. Registration for these courses is completed at the first class meeting. Textbooks required for

the class by the instructor are made available for purchase at the first class meeting.

Course numbers, titles and content are the same as those offered on the University campus. To be awarded graduate credit for extension work, the student must be admitted to the Graduate College.

### OFFICE OF INTERNATIONAL PROGRAMS

For decades, Stout has had and continues to have a major commitment to international programs and to international students. Stout encourages the interchange of ideas and cultures among our students, faculty and the local community. Many of Stout's graduates have careers that require an understanding of people and cultures beyond the borders of our country in the international community. Among Stout's "continuing thrusts," as a part of our mission and thrust statement, is international activities. "All students need to know and understand their own and other cultures. With its long history of international involvement, Stout recognizes that a broad understanding of other cultures requires concerted educational efforts. Stout seeks to internationalize the educational environment, including the curriculum in both general education and professional courses." Currently 64 of 167 international students at Stout are pursuing graduate degrees. They come from 29 countries throughout the world, with the largest enrollments from Saudi Arabia, Nigeria, Malaysia, and Trinidad and Tobago.

International programs and student activities are coordinated through the Office of International Programs. This office provides a service function to the university community by coordinating the overseas involvements, and providing overseas opportunities for students and staff. At the graduate level, the university has developed an arrangement with the Northeast Wales Institute of Higher Education (Wales, Great Britain) in which international students complete a portion of their graduate studies at each institution. Selected graduate courses taken in the United Kingdom are reviewed by Stout, upon recommendation by Northeast Wales Institute officials. Students may then receive advanced standing in the master of science degree program in education at Stout. They complete a minimum of one semester of residence work at Stout, complete their thesis and are awarded the master of science in education degree. A similar cooperative degree program is being developed with representatives of the Monterrey Technical Institute in Mexico, and other agreements are currently being considered.

The special needs of international students are met through professional and referral services provided by the coordinator of International Student Services. These services include confidential personal counseling on immigration matters, financial problems, academic questions, social customs and personal concerns. Other services which promote mutual understanding include new student orientation, host family arrangements, problem solving and liaison activities in the University and Menomonie area community.

## FEES

### RESIDENT STATUS OF GRADUATE STUDENTS FOR TUITION PURPOSES

Adult students who have been bona fide residents of Wisconsin for 12 months immediately preceding enrollment in the University are considered to be resident students for tuition purposes.

(In determining bona fide residence, intent to establish and maintain a permanent home in Wisconsin is determinative. The burden of proof is on the student but intent may be demonstrated or disproved by factors including, but not limited to, filing of Wisconsin income tax returns, possession of a Wisconsin operator's license, place of employment and self-support.)

The following categories of students are also considered to be residents for tuition purposes:

Non-resident members of the armed forces and persons engaged in alternative

service who are stationed in this state for purposes other than education and their spouses and minor children during the period such persons are stationed in this state.

Any student who is a graduate of a Wisconsin high school and whose parents are bona fide residents of this state for 12 months preceding the beginning of any semester or session for which the student registers at the University or whose last surviving parent was a bona fide resident of the state for 12 months preceding death. Note that this applies to both minor and adult students.

**Graduate fees** are set by the University of Wisconsin Board of Regents and are subject to change. Fees for graduate students registered for nine or more credits for spring semester 1988 are:

**Wisconsin Resident:** \$991.56 per semester  
**Minnesota Resident:** \$862.56 per semester  
**Non-resident:** \$2,806.56 per semester

Part-time graduate students are those carrying eight and one-half (8½) credits or less in the regular session, and those carrying five or fewer credits during the eight-week summer session.

Split program students (eligible undergraduates carrying graduate work simultaneously) pay the applicable undergraduate fee. Any expense incurred by the graduate during the conduct of research problems—such as the printing of questionnaires and maps, typing, thesis binding, etc.—is the responsibility of the student.

#### Refunds: Semester Basis

100% for the first week  
80% second week  
60% third week  
40% fourth week  
0% fifth week and thereafter

In determining withdrawal date, the University uses the date the student notifies the school of the withdrawal; or if the

student fails to notify the school and is otherwise unable to verify date of withdrawal, the date of the request to refund will be used to determine the refund.

Students who enter military service by enlistment or otherwise, shall receive a refund in accordance with the standard refund policy of the University. Other exceptions to the above may be made upon approval of the Chancellor or his designee and the designated Board of Regents representative.

**Graduation Fee:** Upon submission of degree candidacy (which is required after one semester or eight credits of graduate work, whichever is sooner, and candidacy approval) candidates will be billed a one-

time, non-refundable, graduation fee of \$30. This fee is for the diploma, diploma cover and other accessories used in commencement exercises. It does not cover the fees for cap and gown.

**Minnesota-Wisconsin Tuition Reciprocity Agreement:** An agreement between the states of Wisconsin and Minnesota permits residents of either state to attend higher education institutions in the other state at the same tuition rate as their home state.

To be eligible under this agreement, a student must file an application prior to or during the term or semester in which he or she expects to first receive the waiver of the non-resident portion of tuition. A stu-

dent is deemed to meet this application date requirement if his or her completed application is postmarked no later than the last day of scheduled classes. A term or semester is deemed to run through the last day of scheduled classes as published in the academic calendar of the institution. Neither the Minnesota Higher Education Coordinating Commission nor the University will be financially liable for students enrolled under the reciprocity agreement who have not received prior approval and certification by the Minnesota Higher Education Coordinating Commission, Suite 400, Capitol Square, 550 Cedar St., St. Paul, Minn. 55101.

## STUDENT SERVICES

### FINANCIAL AID

Several kinds of financial aid are available to eligible graduate students who meet all entrance requirements. Some of these aids provide an opportunity for desirable professional experience as well. Application for assistantships should be filed in the office of the Graduate College. Those who file by April 15, preceding the academic year of planned attendance, have the best opportunities for being offered an assistantship. Eligibility for these assistantships requires admission to a graduate degree program (split-program students are not eligible) and that the student carry a minimum load of at least 6 graduate credits. Conditions for assistantships and other aids are subject to change.

**Graduate Non-teaching Assistantships** provide stipends in return for a designated amount of professional service related to the student's program.

**Graduate Teaching Assistantships** provide stipends in return for time spent teaching a laboratory or discussion session.

Assistantships range from  $\frac{1}{2}$  to  $\frac{1}{4}$  time. The stipend for a one-half time assistantship for 1987-88 was \$5,753.

Graduate students from states other than Wisconsin and Minnesota, who hold assistantships of  $\frac{1}{2}$  time or more and who are employed by Stout on an assistantship, may be awarded a partial or full waiver of the non-resident portion of tuition. Non-resident tuition waivers are subject to availability of funds. Students with a waiver for two consecutive semesters may also receive the award of a tuition waiver for the regular summer session. Non-resident tuition waivers are limited to the difference between resident and non-resident tuition.

The graduate student's scholastic load is limited during the term(s) of the assistantship.

The Financial Aid office administers financial aid funded primarily from state and federal resources. Application for aid should be filed in the office by April 15, preceding the academic year, or March 1, preceding the summer session.

Aid received through the Financial Aid office is based on need and enrollment status. All awards will be adjusted so as not to exceed the determined need. To be eligible, the student must be enrolled at least half time in a graduate degree program at Stout and must maintain satisfactory academic progress.

All applicants must complete an ACT family financial statement which is used to calculate financial need. The office awards aid in the form of grants, loans or work. Eligible students may receive one or a combination of these depending on a student's financial need.

Graduate students are expected to maintain satisfactory academic progress in order to retain enrollment status and financial aid eligibility. Refer to the Graduate Office for Progress Policies.

The following programs are administered by the Financial Aid Office.

**Advanced Opportunity Grants (AOP)** are available to a limited number of minority/disadvantaged students. Preference is given to Wisconsin residents. The amount of the award varies but is generally the amount of resident fees. Applications are available in the Ethnic Services, Graduate and Financial Aid Offices.

**Guaranteed Student Loans (GSL)** are available through private lenders (banks, savings and loan associations, and credit unions). The maximum amount a graduate student may borrow is \$7,500 per academic year. The loan is interest free until six months after graduation, termination of university attendance or change in enrollment status to less than half-time.

Interest is charged during the repayment period, a maximum of ten years.

**Carl D. Perkins National Direct Student Loans (NDSL)** are available to graduate students if their primary source of borrowing as an undergraduate has been this program. The maximum amount that can be borrowed including undergraduate work is \$18,000. The loan is interest free until six months after graduation, termination of attendance or change in enrollment status to less than half-time. Interest of five percent is charged during the repayment period of up to 10 years. The NDSL program allows for cancellations of all or part of the loan in return for certain types of teaching, military service or service as a Peace Corps or VISTA volunteer.

**Supplemental Loans to Students (SLS)** are available to graduate students through participating lenders (banks, savings and loan associations, and credit unions). The maximum amount a graduate student may borrow is \$4,000 per academic year, \$20,000 total. Repayment begins 60 days after the loan is negotiated at a variable interest rate based on the one-year T-Bill plus 3.75 percent capped at 12 percent. Deferment for full-time student borrowers may be possible. Applications and deferment details are available at participating lending agencies.

**Stout Foundation Scholarships** are available through the Foundation office in the Louis Smith Tainter House. The scholarships vary in amount and awarding criteria. Deadline for application is early February preceding the academic year.

**College Workstudy Program** provides job opportunities on campus. Under this program students earn an hourly wage up to a yearly earning limit determined by the Financial Aid Office.

**University (State Payroll) Employment Program** students earn an hourly wage as determined by the Stout employing department.

**Residence Hall Positions:** Opportunities are available to graduate students to serve as a resident adviser on a floor community or as an assistant head resident of a hall. Resident advisers receive remuneration in the form of room and board. The assistant head resident position is salaried. Application for both positions should be made to the Housing Office in the basement of North Hall.

**Vocational Rehabilitation:** Traineeships may be available for qualified students in the Vocational Rehabilitation program. A traineeship provides a stipend and portion of the student's tuition for a maximum period of one year. Priority is given to minorities, handicapped or persons with one year or more evaluation or adjustment experience.

**Bureau of Indian Affairs Grant (BIA):** Available to U.S. citizens who can establish need and proof of at least  $\frac{1}{4}$  native American descent as certified by application to the appropriate tribal or BIA agency. This grant has no set limit amount and is renewable for up to five years total undergraduate and graduate study.

**Wisconsin Native American Student Assistance Grant (WIG):** Awards up to \$1,800 for Wisconsin residents who are Native Americans and demonstrate financial need. This grant is renewable for up to 10 total semesters, undergraduate and graduate study total.

**International Student Tuition Waiver:** Awards may be made to students from other countries based on scholarship and a recommendation from the program director. Awards are subject to the availability of funds. Awards will be made only after admission to the Graduate College has been granted. Students must be enrolled as full-time graduate students to receive this award. Interested students should follow all degree application procedures as well as filing an application for the International Student Tuition Waiver with the Financial Aid Office. The application deadline is May 1 with awards announced about June 1. Applications received after May 1 will be considered only if additional funds become available. Applications are available at the Office of International Student Services and the Financial Aid Office. Questions may be directed to the Financial Aid Office, 210 Bowman Hall. (715) 232-1363.

## RESIDENCE HALLS AND DINING SERVICES

The University has nine coeducational residence halls which provide accommodations for 2,900 undergraduate and graduate students. Graduate students are to request an application card directly from the Department of Residence Life if residence hall accommodations are desired. Early application is encouraged as all residence hall rooms are usually reserved by April.

Freshmen and sophomores comprise about 70 percent of the residence hall population. However, there are upper-classmen and quiet-study floors available. Also available are non-alcohol and non-smoking floors. Due to high occupancy, single rooms are typically not available during the first semester and on a limited basis for the second semester. Roommate requests are honored unless housing applications are very late. During summer sessions, all residents have single rooms unless a specific roommate is requested.

Student rooms are carpeted and furnished with a telephone, two single beds with innerspring mattresses, dressers, bookcases, desks and study chairs. The rooms are approximately 11' x 15'. Small rental refrigerators are available or students may bring their own. Microwave, coffee makers, hot pots and popcorn poppers with unexposed elements are permitted in student rooms. No other cooking appliances including frying pans, hot plates or toasters are permitted.

Residence halls have available for resident's use many services and facilities. Personal computers with letter quality printers, computer terminals which access the university's main academic computer and the Library Learning Center's computer, are in each hall. Through the use of these terminals, students can access the automated card catalog.

Also available in each hall are a laundry, television room, kitchenette, guest room, drafting tables, quiet-study rooms and a game room. There are five weight rooms and two saunas located in the residence halls available for resident's use. All these facilities are available to residents at no additional charge.

Each hall is staffed with a professional residence hall director and a student staff. The reception desks are open 22 hours per day and offer many services and a variety of equipment including typewriters, tools, change, vacuum cleaners, and cooking and sports equipment.

A wide variety of recreational, social and educational activities and programs are offered through the residence hall program.

Students who live on campus choose a dining service plan from a variety of options.

Inquiries for more information, including current rates, are invited by telephone

(715-232-1121) or in person at the Department of Residence Life Office, North Hall.

## OFF-CAMPUS HOUSING

Graduate students who choose to live in off-campus housing may obtain information from a variety of sources. The Stout Student Association Office, located in the Memorial Student Center, maintains a current list of off-campus housing. Other sources of local housing information are the Dunn County News, the Menomonie Shopper and the Dunn County Reminder.

Graduate students planning to live off campus will find it useful to visit Menomonie to secure the type of housing desired.

All the dining service options available to residence hall students may be contracted for separately by off-campus students.

For further information on off-campus housing, call the Stout Student Association (715) 232-2440.

**University Counseling Center:** A Counseling Center and Biofeedback Laboratory serves both training and service functions by providing guidance, school psychology, marriage and family therapy, and vocational rehabilitation practicum opportunities, a resource center of guidance materials and equipment, and a wide variety of counseling and personal development opportunities. Orientation and support services for non-traditional students are available.

**Health Service:** The University maintains a Student Health Service located at the extreme north end of the campus. The Health Service is open from 8 a.m. to 4:30 p.m. Monday through Friday during the academic year. Standard examining and laboratory facilities are available. The Health Service is supported by a student health fee. Only registered students are eligible for services. It is not open during the summer session.

**Services for Students with Disabilities:** The Office of Services for Students with Disabilities offers a variety of services, specialized equipment and information on accessibility. Services include, but are not limited to, assistance with registration, advisement, counseling, taped texts, keys to elevators, referrals to campus and community services, validation for disabled parking, and a variety of specialized equipment such as a Visualtek for individuals with low vision.

If you are a student with a disability, you need to check with the Office of Services for Students with Disabilities to arrange for services before you come to campus. Often services such as taped texts may take some time, and if such a service

is essential, you will want that service available when you arrive on campus at the beginning of the semester. In addition, in order to receive some services, documentation of a disability is necessary. This is especially true of students with a learning disability. Contact the office to find out what documentation is required.

The Office of Services for Students with Disabilities is available to help you make a smooth transition to life at Stout. If you have any questions or concerns, please feel free to write or visit. The office is accessible and located at 203 Administration Building. For further information, call (715) 232-1180.

**Recreation:** Recreation facilities include the Health and Physical Education Building, Nelson Field and 10 outdoor lighted tennis courts. Stout offers open recreation, intramurals and physical education instructional classes. The building provides courts for tennis, badminton, volleyball, basketball and archery, as well as individual rooms for weight training, gymnastics and dance. A swimming pool is also located in this building.

Additional recreational facilities include the Recreation Center housed in the lower level of the Memorial Student Center. The Recreation Center provides an eight-lane bowling facility, a video game room, a billiards area and an outdoor equipment rental center.

Lake Menomin, within the city, offers the finest in fishing, swimming, boating, canoeing and water skiing. Similar opportunities are available on the nearby lakes. Ski enthusiasts will find excellent opportunities within commuting distance. Game hunting (bird and deer) opportunities are to be found in the immediate vicinity. The Menomonie Country Club and the Tanglewood Golf Course have a nine-hole golf course.

**Veterans Service:** Special assistance is given veterans by the Registrar. This office provides veterans with current information on veterans affairs and maintains liaison with the Veterans Administration, Department of Veterans Affairs and the County Veterans Service Officer.

**Parking:** Parking facilities on or near the campus are limited. Students who expect to use University-owned or controlled parking lots must register their vehicles and observe the regulations issued by the Security Office. Limited parking adjacent to the residence halls is available to those living in them. The City of Menomonie has restricted parking audiences which limit street parking both day and night.

**Career Planning and Placement Services:** Graduate students are strongly encouraged to register with the Career Planning and Placement Services Office prior to the receipt of their degree. Registration should be completed even though a graduate student is returning to a job, continuing their education or are employed at the time of graduation. Registration is part of the graduate students checklist procedure prior to receipt of degrees.

The Career Planning and Placement Services Office is maintained to provide service for seniors, graduate students and alumni. The goal of the office is to provide effective support to the placement efforts each individual makes in securing the best position. Effort is made to bring to the attention of candidates information about vacancies, trends in supply and demand, data about salaries and conditions of employment, and to recommend effective application techniques. Career development and multiple career counseling assistance is also available. Students are encouraged to attend group seminars or meet individually with a placement counselor.

There is no charge to students for any service provided by the Career Planning and Placement Services while they are enrolled for more than two credits and in the process of seeking a position. However, there will be a \$25 late processing fee for all graduates who wish to use these facilities and services if they do not establish their credentials in the Career Planning and Placement Services Office prior to graduation.

Graduate students are invited to establish a placement file and to make use of these facilities and services when they are within one semester of meeting the requirements for graduation.

**Child Care Services:** Child care services are available at the Child and Family Study Center during the academic year and eight-week summer session. This Center provides services to children as well as a practicum experience for children from birth through six years of age. The infants' and toddlers' program meets two hours per week. The Day Care program, which serves children three through six years of age, operates from 7:30 a.m. to 5:30 p.m. daily, Monday through Friday. All other programs are limited to a 2½-hour block per day. Additional information on the programs, enrollment and fees can be obtained by writing the Director of the Child and Family Study Center, School of Home Economics, University of Wisconsin-Stout, Menomonie, WI 54751.



# DEGREE PROGRAMS

## SCHOOL OF INDUSTRY AND TECHNOLOGY

Dr. M. James Bensen, Dean  
Dr. John F. Entorf, Associate Dean  
Dr. Bruce E. Siebold, Acting Associate Dean

### INDUSTRIAL/TECHNOLOGY EDUCATION

Dr. Richard F. Peter, Program Director

#### GRADUATE FACULTY

Dr. William D. Amthor, Professor  
Dr. M. James Bensen, Professor  
Mr. Robert Berkemer, Assistant Professor  
Dr. James Bjarnerud, Professor  
Dr. James A. Collier, Professor  
Dr. John F. Entorf, Professor  
Dr. Richard H. Gebhart, Professor  
Dr. Glenn Gehring, Professor  
Dr. Robert Hendricks, Associate Professor  
Dr. James F. Herr, Professor  
Dr. Armand G. Hofer, Professor  
Dr. Duane A. Johnson, Professor  
Mr. Harlyn Misfeldt, Associate Professor  
Dr. Louis A. Moegenburg, Professor  
Dr. Arthur E. Muller, Professor  
Dr. Orville Nelson, Professor  
Dr. Frank R. Pershern, Professor  
Dr. Richard F. Peter, Professor  
Dr. Neal W. Prichard, Professor  
Dr. Jack B. Sampson, Professor  
Dr. A. Gary Searle, Professor  
Dr. Lee H. Smalley, Professor  
Dr. Robert J. Spinti, Professor  
Dr. Douglas D. Stallsmith, Professor  
Dr. Leonard Sterry, Professor  
Dr. Henry L. Thomas, Professor  
Dr. Hans E. Timper, Professor

Master of Science Degree. This program is especially designed for individuals with undergraduate preparation in industrial arts, industrial education, technology education and related fields. However, it is also open to others interested in entering the industrial education field. (See optional program in this section.)

The program provides opportunities for students to expand their knowledge and competence in industrial education and technology education. Specifically, this program will provide students the opportunity to:

1. Understand the history, issues, and philosophy of industrial/technology education.
2. Develop or expand competence in curriculum development.
3. Understand and apply learning theory to develop teaching strategies suitable for teaching in classroom and laboratory or work settings.
4. Develop effective interpersonal relationship skills.
5. Develop or expand the ability to organize, manage and maintain an industrial/technology education laboratory or work environment.
6. Design and use evaluation instruments and procedures.
7. Develop or expand competence in technical areas suitable for teaching industrial/technology education.
8. Understand and be able to utilize information gained from technical and educational research.

#### ADMISSION

To be admitted with full status to this program, the applicant must hold a bachelor's degree in industrial education, technology education (or equivalent) from an accredited college and have an overall grade point average of at least 2.75.

In addition, the applicant should have an undergraduate major in industrial arts education, technology education or its equivalent. This assumes preparation and certification (or eligibility for certification) for teaching industrial arts or technology education.

A deficiency in these admission requirements does not preclude admission, but it may require completion of additional undergraduate work and/or increase the amount of graduate credit required to earn the degree. (See Optional Programs in this section.)

#### PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience and (3) certification of degree program completion by the program director, the following Program Specific Primary Evaluation Processes are used: program application, degree candidacy and intent to graduate.

#### REQUIREMENTS

The requirements for this degree include: (a) completion of at least 30 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students—700 level; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined below:

<b>Preparation in Research (7-11 Cr.)</b>		<b>Credits</b>
190-739	Introduction to Problems in Industry/Technology . . . . .	1
421-740	Research Foundations . . . . .	4
The following two options are available for the research experience, each involving a research report:		
190-735	Problems in Industrial/Technology Education . . . . .	2
190-770	Thesis—Industrial/Technology Education . . . . .	6

**Preparation Basic to Program (14 Cr. minimum)**

190-704	History/Philosophy of Technology Education . . . . .	2
Select at least one from each cluster:		

**Cluster 1. Foundations in Philosophy or Psychology**

195-532	Futures of Technology . . . . .	2
190-708	Issues in Technology Education . . . . .	2
421-700	Philosophy of Modern Education . . . . .	2
421-705	Social Thought of American Educators . . . . .	2
479-730	Advanced Psychology of Learning . . . . .	2

**Cluster 2. Facilitation and Management of Learning**

190-533	Technical/Vocational Planning Laboratories . . . . .	2
190-606	Activities in Technology/Vocational Education . . . . .	2
190-637	Organization and Management of Technical Laboratories . . . . .	2
421-690	Learning Style Theory and Application . . . . .	2
421-714	Teaching Strategies . . . . .	4
xxx-xxx	Graduate Level Computer Course	

**Cluster 3. Evaluation**

421-641	Education Evaluation . . . . .	2
421-742	Program Evaluation . . . . .	3

**Cluster 4. Technical Research**

110-798	Problems in Energy and Transportation . . . . .	2
130-798	Problems in Industry and Technology . . . . .	2
150-730	Advanced Technical Problems (Industrial Management) . . . . .	2
170-798	Problems in Industry and Technology . . . . .	2
120-799	Independent Study in Media Technology . . . . .	2

Select at least two from this cluster:

**Cluster 5. Curriculum and Program Development**

190-530	Implementing Technology Education . . . . .	3
190-710	Curriculum Innovations in Technology Education . . . . .	2
199-674	Adult Education . . . . .	2
421-750	Curriculum Theory and Practice . . . . .	2
*190-638	Course Construction . . . . .	2
*120-740	Instructional Development . . . . .	2

\*May take either, but not both.

**Preparation for Further Individual Professional Development**

For students planning careers in teaching, it is recommended that their technical work (graduate and undergraduate) total at least 45 semester hours. Additional electives will be selected with approval of the graduate program director. A complete list of graduate work appropriate to this degree program is maintained by the program director.

**Preparation Through Advisement Patterns (select one)**

This program is designed so that at least one of a variety of advisement patterns can be developed within the framework of the industrial education degree programs. Beyond the preparation in research (7-11 Cr.) and preparation basic to the program (14 Cr.) students will choose in consultation with their program director an advisement pattern supporting their work-role/life-role goals and select learning experiences (course work) which will support them in such areas as: industrial or technology education teacher, supervisor or administrator; in elementary, middle-junior high school, senior high school, post high school, college or university, industry or other selected areas.

**OPTIONAL PROGRAMS**

Persons who hold a bachelor's degree in another field and wish to become certified to teach industrial education while also earning the master's degree may do so in the following programs.

## ADMISSION

Prior to full admission to the master's degree program the student must develop an appropriate technical background by completion of the following undergraduate work. (See Undergraduate Bulletin for course descriptions.) Some graduate work may be taken concurrently but ordinarily these undergraduate deficiency credits will take first priority:

		Credits
110-504	Energy Technology . . . . .	2
110-501	Transportation . . . . .	2
110-204	Electricity/Electronics Fundamentals . . . . .	3
130-103	Communication and Information Technology . . . . .	3
130-110	Drafting . . . . .	2
130-504	Communication and Information Systems . . . . .	3
150-514	Industrial Enterprise Practicum . . . . .	3
170-102	Manufacturing-Materials and Processes I . . . . .	3
170-103	Manufacturing-Materials and Processes II . . . . .	3
170-205	Design for Industry . . . . .	2
170-270	Light Building Construction . . . . .	2
110-551	Introduction to Microprocessors . . . . .	3
	Total	31

## M.S. IN INDUSTRIAL/TECHNOLOGY EDUCATION (for those not certifiable for teaching in any field)

### Professional Preparation\* (16 Cr.)

190-530	Implementing Technology Education . . . . .	3
421-536	Working with the Culturally Different . . . . .	2
421-700	Philosophy of Modern Education . . . . .	2
479-730	Advanced Psychology of Learning . . . . .	2
421-714	Teaching Strategies . . . . .	4
421-750	Curriculum Theory and Practice . . . . .	2
190-710	Curricular Innovation in Technology Education . . . . .	2
190-637	Organization/Management of Technical Laboratories Development . . . . .	2
190-638	Course Construction . . . . .	2

### Undergraduate Professional Deficiencies (13-21 Cr.)

190-409	Student Teaching (or) . . . . .	16
190-488	Internship Teaching . . . . .	8
421-582	Secondary Reading and Language . . . . .	2
431-630	Mainstreaming Special Students . . . . .	3

\*(These 16 credits of professional preparation must be completed prior to student or intern teaching.)

### Preparation in Research (7-11 Cr.)

(See previous reference to Preparation in Research for options.)

### Preparation Basic to Program (4 Cr.)

190-704	History/Philosophy Technology Education . . . . .	2
Any one course from Cluster 4 Technical . . . . .		2

### Technical Electives (15 Cr.)

Total undergraduate and graduate technical credits in any combination is at least 45 semester hours.

### Human Relations Requirement:

The Wisconsin Department of Public Instruction requires preparation in Human Relations for those desiring initial certification for teaching in Wisconsin.

## M.S. IN INDUSTRIAL/TECHNOLOGY EDUCATION—(for those certifiable for teaching in fields other than industrial education)

Upon completion of the undergraduate technical deficiency, students who are certifiable teachers in fields other than industrial/technology education may enter the standard program for the Master of Science degree in industrial education outlined previously with the stipulation that their programs will include sufficient graduate technical credits so that the total undergraduate and graduate technical credits in any combination is at least 45 semester hours of technical credits.

Student or intern teaching in industrial/technology education (16 undergraduate credits) is required.

# MANAGEMENT TECHNOLOGY

Dr. Zenon T. Smolarek, Program Director

## GRADUATE FACULTY

Dr. William Amthor, Professor  
Dr. Mehar Arora, Professor  
Dr. Wallace Carlson, Associate Professor  
Mr. Donald Chatman, Associate Professor  
Dr. Jerry W. Coomer, Professor  
Dr. Richard Gebhart, Professor  
Dr. David Graf, Professor  
Dr. Ray Hansen, Professor  
Mr. Stan Johnson, Associate Professor  
Dr. Ray Keil, Professor  
Mr. Charles Krueger, Associate Professor  
Dr. Marv Kufahl, Professor  
Mr. Dean Long, Associate Professor  
Mr. Joseph Maglio, Assistant Professor  
Mr. Eino Maki, Associate Professor  
Dr. Orville Nelson, Professor  
Dr. Wayne Nero, Professor  
Dr. John Olson, Professor  
Dr. Virginia Peter, Professor  
Dr. James J. Runnalls, Professor  
Dr. Jack Sampson, Professor  
Dr. Bruce Siebold, Professor  
Dr. Charles E. Smith, Associate Professor  
Dr. Zenon T. Smolarek, Associate Professor  
Dr. Robert J. Spinti, Professor  
Dr. Douglas Stallsmith, Professor  
Mr. Ned Weckmueler, Assistant Professor  
Dr. Hugh Williamson, Associate Professor  
Dr. Charles Yost, Professor

This program provides educational experiences that prepare graduates for middle management positions in business and industry. The students select an operational specialty area depending on their professional goals, educational background and available faculty expertise. Operational specialities such as industrial management, construction management, graphic arts, electronics, industrial training and others may be developed.

Learning experiences in the immediate professional setting include advanced technical problems and the field project.

## ADMISSION

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college, have an overall grade point average of at least 2.75 and have the equivalent of two years of appropriate work or military experience.

Prerequisite courses may be prescribed upon evaluation of undergraduate transcripts if the student does not have a strong background in production management, marketing, accounting, engineering economy, statistics, computer programming, personnel management, and in at least four technical areas.

## PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience and (3) certification of degree program completion by the program director, the following Program Specific Primary Evaluation Processes are used: program application; diagnostic (150-720); degree candidacy and intent to graduate.

## REQUIREMENTS

The requirements for this degree include: (a) completion of at least 30 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better, a minimum of 15 credits must be in courses open only to graduate students—700 level; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined below:

### Professional Foundations (12 Cr.)

150-700	Systems Analysis and Design . . . . .	3
150-710	Seminar in Industrial Operations . . . . .	2
150-720	Foundations in Industrial Operations* . . . . .	2
150-740	Introduction to Decision Theory . . . . .	3
150-760	Corporate Planning . . . . .	2

### Leadership (minimum of 5 Cr.)

150-600	Organizational Leadership . . . . .	3
150-660	Industrial Management . . . . .	2
150-750	Organizational Development . . . . .	3
160-679	Marketing Research . . . . .	3
160-690	Administrative and Business Policies . . . . .	3
212-535	Seminar on Self-Growth . . . . .	2
320-720	Labor and Industrial Relations . . . . .	2
413-752	Group Dynamics . . . . .	2
421-830	Educational Administrative Behavior . . . . .	3
459-717	Occupational Analysis and Information . . . . .	2
479-570	Assertive Training Procedures . . . . .	2
479-579	Public Relations . . . . .	2
479-581	Industrial Psychology . . . . .	2
479-679	Advanced Public Relations . . . . .	2
479-760	Personality . . . . .	2
	Other Approved Electives . . . . .	2-4

### Operational Specialty (minimum of 9 Cr.)

The following courses are typical of those taken by students that specialize in industrial management or construction management.

130-526	Building Construction Specifications . . . . .	2
130-629	Land Use Planning . . . . .	3
130-505	Production and Inventory Control . . . . .	3
140-583	Voluntary OSHA Compliance . . . . .	2-3

140-782	Safety Management . . . . .	3
140-587	Human Factors Engineering . . . . .	3
150-510	Production Processing . . . . .	3
150-520	Quality Assurance . . . . .	3
150-540	Time and Motion Study . . . . .	3
150-570	Estimating and Analyzing Construction Costs . . . . .	3
150-650	Introduction to Operations Research . . . . .	4
150-670	Systems Approach to Construction Management . . . . .	3
150-730	Advanced Technical Problems - Industrial Management . . . . .	2-6
170-515	Metallurgy . . . . .	3
170-537	Numerical Control in Manufacturing . . . . .	3
	Other Approved Electives . . . . .	0-9

**Culminating Integrative Experience (minimum of 3 credits)**

150-790	Field Project** . . . . .	3
or		
150-780	Problems in Management Technology . . . . .	2-4

\*A faculty tutor is assigned to guide students' self-development program. Strengths and deficiencies are identified and the student culminates the experience with both written and oral matriculation to candidacy examinations.

\*\*Required of students who do not have a minimum of two year's experience in the area of their operational specialty. May be selected by students who do have a minimum of two year's experience in the area of their operational specialty.

# MEDIA TECHNOLOGY

Dr. David L. Graf, Program Director

## GRADUATE FACULTY

Dr. Thomas Franklin, Professor  
Mr. Ronald Fry, Assistant Professor  
Dr. Richard Gebhart, Professor  
Dr. David L. Graf, Professor  
Dr. Joseph Hagaman, Professor  
Dr. Roger Hartz, Assistant Professor  
Dr. Harry A. Herbert, Professor  
Dr. Terrance R. Ingram, Professor  
Dr. Gordon Jones, Professor  
Dr. Howard Lee, Associate Professor  
Mr. Harlyn Misfeldt, Associate Professor  
Dr. Orville Nelson, Professor  
Dr. Richard Peter, Professor  
Ms. Jana Reeg-Steidinger, Assistant Professor  
Dr. Lorry Sedgwick, Professor  
Dr. Lee Smalley, Professor

Master of Science Degree. This degree program is designed to prepare the student for a professional career in media technology. At the completion of the program, the student will be qualified to plan, produce and utilize materials, to teach courses in media technology, and to develop, supervise and administer media programs in education, industry and government.

Learning experiences in the immediate professional setting include the media technology internships, instructional development practicum and a variety of graduate assistantships.

## ADMISSION

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75.

Students planning to seek certification and employment in the media area in Wisconsin elementary and secondary schools must possess a valid teacher's certificate or sufficient credits to qualify for a teaching certificate.

This program is designed so that at least one of a variety of advisement patterns can be developed within the framework of the Media Technology graduate degree program. Beyond preparation in research and the core courses, students will choose, in consultation with the program director, an advisement pattern supporting their work-role/life-role goals and select coursework which will prepare them for such roles as media specialist, instructional designer, media consultant and media manager.

Prior to full admission to the master's degree program, the student must show evidence of an appropriate professional and technical background and may need to complete additional undergraduate work in the areas of audiovisual communications, photography, human relations, business management, financial accounting and marketing. The need to take additional deficiency credits may add to the length of time required to complete the degree program. Some graduate work may be taken concurrently, but ordinarily the undergraduate deficiency credits will take first priority. The student cannot be admitted into degree candidacy until all deficiency credits are completed. A grade of "B" or better is required in all deficiency courses.

Finally, the student must show evidence of being able to use a computer for word processing, data base management, spreadsheet analysis and other productivity applications. Students without prior computer coursework or extensive on-the-job experience with computers must include a minimum of one computer applications course in their program plan.

## PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience and (3) certification of degree program completion by the program director, the following Program: Specific Primary Evaluation Processes are used: student advisement; substantive work in major and program plan.

## REQUIREMENTS

The requirements for this degree include: (a) completion of at least 32 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students 700 level and above; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined below:

Required Core Courses (11 Cr. or verified previous competence)		Credits
120-561	Advanced Graphic Production . . . . .	2
120-630	Audio/Film/TV Production Fundamentals . . . . .	3
120-740	Instructional Development . . . . .	2
120-760	Managing Media Services . . . . .	3
120-790	Seminar: Media Technology . . . . .	1

### Required Research Preparation (7-11 Cr.)

120-718	Introduction to Problems in Media Technology (and) . . . . .	1
421-740	Research Foundations . . . . .	4
120-722	Problems in Media Technology (or) . . . . .	2
120-770	Thesis: Media Technology . . . . .	6

**Selective Theory Preparation (2-3 Cr.)**Choose *one* of the following:

198-560	Training Systems in Business and Industry .....	3
199-534	Task Analysis .....	2
421-685	Psychology of Adult Education .....	2
421-738	Elementary School Curriculum .....	3
421-739	High School Curriculum .....	2
421-811	Structuring Knowledge .....	2
421-750	Curriculum Theory and Practice .....	2-3
479-581	Industrial Psychology .....	2
479-730	Advanced Psychology of Learning .....	2

Any Approved Elective

**Professional Electives (Minimum of 9 credits selected from the following courses or comparable courses)**

130-504	Communications and Information Systems .....	1-3
195-733	Impacts of Technology (or) .....	2
195-532	Futures of Technology .....	2
326-535	Writing Technical Manuals .....	3
326-601	Juvenile Fiction Seminar .....	1-3
391-508	Speaking Skills for Business and Industry .....	2
479-579	Public Relations .....	2
120-570	Introduction to Computer-Assisted Instruction .....	2
120-580	Microcomputer Applications: Words/Data .....	2
120-605	Advanced Photography .....	2
120-625	Broadcast TV Production Internship .....	1-4
120-640	Telecommunication Systems and Teleconferencing .....	2
120-645	Color Photography .....	2
120-655	Slide/Tape and Multi-Image Production .....	2
120-716	Media Selection and Evaluation .....	3
120-732	Planning Media Facilities .....	2
120-780	Microcomputers in Media Centers .....	2
120-788	Media Technology Internship .....	1-8
120-799	Independent Study .....	1-2

Any Approved Elective

xxx-xxx Internship

**Personnel/Management Electives (Minimum of 3 credits from the following courses or comparable courses approved by the program director)**

150-600	Organizational Leadership .....	3
421-702	Principles of Supervision .....	2-3
421-726	Administration .....	2-3
479-582	Human Resource Management .....	3
150-502	Time Management .....	1
150-630	Quality Circles .....	2
479-570	Assertive Training Procedures .....	2
479-673	Psychology of Stress .....	2

Any approved elective

# SAFETY

Dr. John Olson, Program Director

## GRADUATE FACULTY

Mr. Donald Chatman, Associate Professor  
Dr. Jerry Coomer, Professor  
Dr. John F. Entorf, Professor  
Mr. Charles Krueger, Associate Professor  
Dr. Charles Metelka, Professor  
Dr. Thomas Modahl, Professor  
Dr. John H. Olson, Professor  
Dr. Martin Ondrus, Professor  
Mr. Eugene Rucnger, Assistant Professor  
Dr. Jack B. Sampson, Professor  
Dr. C. E. Smith, Associate Professor  
Dr. Willis L. Valett, Professor

Master of Science Degree. This graduate program is designed for flexibility to meet both the personal and professional needs of the student. Through advisement, students may prepare for positions in occupational/industrial loss control and/or safety education.

Instructional efforts are directed to experiences that will provide students the capability to work effectively in their professional setting and to conduct applied research in various loss control areas.

Learning experiences in the immediate professional setting include: field problems in accident prevention and loss control, independent study in occupational safety/health and occupational safety/health internship.

## ADMISSION

To be admitted to this program with full status, the applicant must hold a bachelor's degree from an accredited college with an overall grade point average of at least 2.75. In addition, the applicant must have appropriate academic preparation in a scientific, technical, and/or related area. Prior professional, industrial/trade or educational experience is recommended prior to enrollment in the program.

A deficiency in these admission requirements does not preclude admission, but it may require completion of additional undergraduate work and/or increase the amount of graduate credit required to earn the degree. An individual program of study will be designed by the program director and the student to accommodate the professional/student needs.

## PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience and (3) certification of degree program completion by the program director, the following Program Specific Primary Evaluation Processes are used: program application; applicant's goals; program plan; admissions interview; related work experience and intent to graduate.

## REQUIREMENTS

The requirements for this degree: (a) completion of at least 30 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students—700 level; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined below:

## APPLIED RESEARCH AND DEVELOPMENT

Select One	Credits
150-700 System Analysis and Design .....	3
421-740 Research Foundations .....	4
Select One	
140-770 Thesis—Safety .....	6
140-783 Field Problem in Accident Prevention/Loss Control .....	3
Required Professional Preparation (Select 5-8 Credits)	
140-771 Foundations in Safety .....	3
140-781 Risk Management in Loss Control .....	3
140-782 Safety Management .....	3
140-785 Seminar in Safety .....	2
Select One	
150-600 Organizational Leadership .....	3
140-575 Behavioral Approach to Accident Prevention .....	3
Elective Professional Preparation	
140-581 Occupational Safety/Loss Control .....	3
140-583 Voluntary OSHA Compliance .....	2-3
140-584 Safety Engineering Standards .....	2
140-586 Fire Protection/Prevention .....	3
140-587 Human Factors Engineering .....	3

140-588	Construction Safety .....	2
140-589	Fleet Safety Management .....	2
140-590	Product/Service Liability .....	2
140-799	Independent Study in Safety .....	1-3
140-784	Safety Internship .....	4-6
311-542	Industrial Hygiene .....	3
311-710	Industrial Hygiene Instrumentation .....	2
320-720	Labor and Industrial Relations .....	2
140-574	Alcohol, Drugs and Accident Prevention .....	3
140-575	Behavioral Approach in Accident Prevention .....	3
140-580	Driver Education for the Handicapped .....	2
391-512	Speech Skills for Educators .....	2
120-560	Audio-Visual Communications .....	2
120-561	Advanced Graphic Production .....	2
413-721	Alcohol and Drug Abuse Treatment Programs .....	3
413-752	Group Dynamics .....	2
413-760	Theories and Techniques of Behavior Modification .....	2
421-702	Principles of Supervision .....	2
479-582	Human Resource Management .....	3

**Additional Personal/Professional Development**

150-740	Introduction to Decision Theory .....	3
150-750	Organizational Development .....	3
160-601	Legal Environment of Business .....	2
160-690	Administrative and Business Policies .....	3
195-733	Impacts of Technology .....	2
199-534	Task Analysis .....	2
199-674	Adult Education .....	2
311-553	Environmental Chemistry .....	3
421-685	Psychology of Adult Education .....	2

# VOCATIONAL EDUCATION

Dr. Howard Lee, Program Director

## GRADUATE FACULTY

Mr. Thomas C. Allen,  
Assistant Professor  
Dr. William D. Amthor, Professor  
Dr. Mehar Arora, Professor  
Dr. Thomas Baldwin, Professor  
Dr. James Bjornerud, Professor  
Dr. James Collier, Professor  
Dr. John F. Entorf, Professor  
Dr. Thomas Franklin, Professor  
Dr. Richard H. Gebhart, Professor  
Dr. Glenn Gehring, Professor  
Dr. Sandra Gill, Professor  
Dr. James F. Herr, Professor  
Dr. Joy A. Jocelyn, Assistant Professor  
Dr. Duane A. Johnson, Professor  
Dr. Gordon Jones, Professor  
Mr. Charles Krueger,  
Associate Professor  
Dr. Howard Lee, Associate Professor  
Dr. Richard Miller, Professor  
Mr. Harlyn Misfeldt,  
Associate Professor  
Dr. Lou Moegenburg, Professor  
Dr. Arthur Muller, Professor  
Dr. Orville Nelson, Professor  
Dr. Donald Olson, Associate Professor  
Mr. George Peltier, Assistant Professor  
Dr. Frank Pershern, Professor  
Dr. Richard F. Peter, Professor  
Dr. Virginia Peter, Professor  
Dr. Neal W. Pritchard, Professor  
Dr. Mary J. Rains, Associate Professor  
Dr. William Reynolds, Assistant  
Professor  
Dr. Jack B. Sampson, Professor  
Dr. A. Gary Searle, Professor  
Dr. Robert Sedlak, Professor  
Dr. Bruce Siebold, Professor  
Dr. Lee H. Smalley, Professor  
Mr. Paul Speidel, Associate Professor  
Dr. Robert J. Spinti, Professor  
Dr. Douglas Stallsmith, Professor  
Dr. Donald J. Stephenson, Professor  
Dr. Leonard Sterry, Professor  
Dr. Henry Thomas, Professor  
Mrs. Margaret Wiinamaki,  
Assistant Professor  
Dr. Charles Yost, Professor

Master of Science Degree. The graduate program in vocational education is designed to increase the professional competence of those who plan to serve in a high school or post high school program as a teacher, coordinating teacher, coordinator, supervisor, local vocational education coordinator or administrator of vocational education.

Learning experiences in the immediate professional setting include: internship, outreach courses and independent study.

## ADMISSION

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75.

Applicants with undergraduate degrees and certification in the various subject areas of vocational-technical education are generally eligible.

Applicants with appropriate subject matter backgrounds, but who do not have the required professional education will need to complete, for undergraduate credit, at least one appropriate methods course. This should be completed early in the program.

Applicants for the emphasis in local vocational education coordinator (LVEC) must complete, for undergraduate credit, a course in the principles, issues and/or philosophy of vocational-technical education. (Request additional admission information from the program director for the LVEC emphasis.)

Prior to award of the degree, the student must present evidence of the necessary amount and kind of occupational experience as specified by the appropriate state certifying agency.

A deficiency in these admission requirements does not preclude admission, but it may require completion of additional undergraduate work and/or increase the amount of graduate credit required to earn the degree.

## PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience and (3) certification of degree program completion by the program director, the following Program Specific Primary Evaluation Processes are used: application and degree candidacy.

## REQUIREMENTS

The requirements for this degree include: (a) completion of at least 30 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students—700 level; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined below:

Preparation in Research (6-10 Cr.)		Credit
421-740	Research Foundations . . . . .	4
190-739	Introduction to Problems in Industry/Technology . . . . .	1
199-736	Problems in Vocational Education (or) . . . . .	2
199-770	Thesis—Vocational Education (or) . . . . .	6
199-784	Internship—LVEC (for LVEC only) . . . . .	4-8

### Preparation within Program (select one concentration)

#### Concentration in Teaching (20-24 Cr.)

199-502	Principles of Vocational, Technical and Adult Education . . . . .	2
479-730	Advanced Psychology of Learning . . . . .	2

Select one:

421-700	Philosophy of Modern Education . . . . .	2
421-705	Social thought of American Educators . . . . .	2
195-532	Futures of Technology . . . . .	2

Plus, appropriate courses in teaching/learning process.

#### Concentration in Administration (20-24 Cr.)

199-502	Principles of Vocational, Technical and Adult Education . . . . .	2
479-730	Advanced Psychology of Learning . . . . .	2

Select one:

421-700	Philosophy of Modern Education . . . . .	2
---------	--	---

421-705	Social thought of American Educators . . . . .	2
195-532	Futures of Technology . . . . .	2
Plus, appropriate courses in administration.		

**Concentration in Local Vocational Education Coordination—(LVEC) (18-26 Cr.)**

This emphasis is the certification program for Local Vocational Education Coordinators in Wisconsin; similar positions exist in other states.

479-579	Public Relations . . . . .	2
421-702	Principles of Supervision . . . . .	2
421-726	Administration . . . . .	2
421-733	Survey Procedures . . . . .	2
199-560	Cooperative Occupational Education Programs . . . . .	2
413-691	Theories of Career Development (or) . . . . .	2
199-710	Coordination and Supervision of Vocational Education . . . . .	2
421-750	Curriculum Theory and Practice . . . . .	2
489-753	Psychometric Theory and Application . . . . .	2
413-737	Curriculum and Methods in Career Education . . . . .	2

**Concentration in Marketing Education (4 Cr.)**

196-701	Issues in Vocational Marketing Education . . . . .	2
196-702	Improving Marketing Education Methods/Materials . . . . .	2

**Concentration in Special Needs (20-24 Credits)**

199-502	Principles of Vocational, Technical and Adult Education . . . . .	2
199-710	Coordination and Supervision of Vocational Education . . . . .	2
431-630	Mainstreaming Special Students . . . . .	3
431-700	Special Needs Learners in Vocational Education . . . . .	2
431-725	Programming for Vocational Special Needs . . . . .	2
431-790	Special Education Seminar . . . . .	2
479-730	Advanced Psychology of Learning . . . . .	2

Select 7-11 other credits from the following:

195-733	Impacts of Technology . . . . .	2
199-534	Task Analysis . . . . .	2
199-560	Cooperative Occupational Education Programs . . . . .	2
199-746	Seminars . . . . .	2
199-780	Internship in Vocational Education . . . . .	4-8
199-792	Administration of Vocational, Technical and Adult Education . . . . .	2
421-536	Working with the Culturally Different . . . . .	2
431-516	Psychology of the Exceptional Child . . . . .	3
431-518	Clinical Experience with Handicapped . . . . .	2
431-595	The Gifted Student . . . . .	2
431-526	Practicum in Special Education . . . . .	2
431-662	Classroom Management Techniques . . . . .	3
459-723	Procedure of Work Evaluation . . . . .	3

**Preparation for Further Individual and Professional Development**

The student should confer with the program adviser in choosing the elective credits to complete the 30-hour degree requirements. There is considerable flexibility in the program with regard to electives, and they may be taken as needed to fulfill the individual goals and objectives of the student. Generally, if appropriate to your goal, electives may be chosen from your technical field (see last paragraph) and from among the following courses:

150-600	Organizational Leadership . . . . .	3
195-733	Impacts of Technology . . . . .	2
199-534	Task Analysis . . . . .	2
199-560	Cooperative Occupational Education Programs . . . . .	2
199-710	Coordination and Supervision of Vocational Education . . . . .	2
199-746	Seminars in Vocational Education . . . . .	2
199-780	Internship in Vocational Education . . . . .	4-8
199-792	Administration of Vocational, Technical and Adult Education . . . . .	2
320-720	Labor and Industrial Relations . . . . .	2
354-640	Computer Use in Education . . . . .	3
354-741	Computer Programming Techniques . . . . .	2
387-540	Sociology of Work . . . . .	3
391-512	Speech Skills for Educators . . . . .	2
413-501	Introduction to Guidance . . . . .	2
421-641	Education Evaluation . . . . .	2
421-702	Principles of Supervision . . . . .	2
421-705	Social Thought of American Educators . . . . .	2

421-714	Teaching Strategies . . . . .	4
421-726	Administration . . . . .	2
421-733	Survey Procedures . . . . .	2
421-739	High School Curriculum . . . . .	2
421-742	Program Evaluation . . . . .	2
421-750	Curriculum Theory and Practice . . . . .	2
479-579	Public Relations . . . . .	2
120-560	Audiovisual Communications . . . . .	2
120-740	Instructional Development . . . . .	2

Persons preparing to teach will select advanced courses in their subject field. This bulletin lists graduate level technical courses, which are available for graduate credit in certain individual situations. Students are urged to investigate advanced subject matter courses suitable to their particular teaching field; in some teaching areas it may be desirable to transfer them from another institution. However, prior approval to take any course should be obtained.

# Education Specialist Degree INDUSTRIAL AND VOCATIONAL EDUCATION

Dr. Howard Lee, Program Director

## GRADUATE FACULTY

Dr. William D. Amthor, Professor  
Dr. Mehar Arora, Professor  
Dr. Thomas Baldwin, Professor  
Dr. M. James Bensen, Professor  
Dr. James Bjornerud, Professor  
Dr. James Collier, Professor  
Dr. Jerry W. Coomer, Professor  
Dr. John F. Entorf, Professor  
Dr. Wesley L. Face, Professor  
Dr. Thomas Franklin, Professor  
Dr. Richard H. Gebhart, Professor  
Dr. Glenn Gehring, Professor  
Dr. Carlyle Gilbertson, Professor  
Dr. Joseph G. Hagaman, Professor  
Dr. James F. Herr, Professor  
Dr. Joy A. Jocelyn, Assistant Professor  
Dr. Duane A. Johnson, Professor  
Dr. Gordon Jones, Professor  
Dr. Louis L. Klitzke, Professor  
Dr. Howard Lee, Associate Professor  
Dr. Richard Miller, Professor  
Mr. Harlyn Misfeldt,  
Associate Professor  
Dr. Art Muller, Professor  
Dr. Orville Nelson, Professor  
Dr. Virginia Peter, Professor  
Dr. Neal W. Prichard, Professor  
Dr. Mary Rains, Associate Professor  
Dr. William Reynolds, Assistant  
Professor  
Dr. Daniel Riordan, Professor  
Dr. Jack B. Sampson, Professor  
Dr. A. Gary Searle, Professor  
Dr. Bruce Siebold, Professor  
Dr. Lee H. Smalley, Professor  
Dr. Charles E. Smith, Associate  
Professor  
Dr. Robert J. Spinti, Professor  
Dr. Douglas Stallsmith, Professor  
Dr. Donald J. Stephenson, Professor  
Dr. Leonard Sterry, Professor  
Dr. Henry Thomas, Professor

This is a 36 semester credit program beyond the master's degree. Two concentrations are available leading to an Education Specialist degree in industrial and vocational education, (1) industry and technology and (2) professional education.

The program is for those who have a master's degree in industrial arts, industrial education, technology education, vocational education or equivalent. (Equivalency meaning agriculture, business education, distributive education, home economics education, and trade and industrial education.)

Or, the program is for those who have a master's degree and are a certified employee of a vocational-technical institute or a community college.

## ADMISSION

Students seeking admission to the program should complete the following at least 30 days prior to the opening of the term in which they plan to begin their program.

1. File an Application for Admission to the Ed.S. program.
2. Submit a current dossier (resume) listing all pertinent biographical and educational data.
3. Present official transcripts of all college and university work completed certifying award of bachelor's and master's degrees in industrial education, industrial arts education, technology education, vocational education or an equivalent field with a cumulative grade point average of at least 3.25 on a four-point scale in all graduate work. Persons having master's degrees in other fields who are certified and employed in vocational-technical education are also eligible for admission. Transcripts need not be submitted for work completed at Stout.
4. Provide evidence of at least two years of successful teaching experience and professional promise by requesting letters from at least two administrators or supervisors.

The Education Specialist degree program committee comprised of graduate faculty and an Education Specialist degree student will review the candidate's credentials and make a recommendation relative to admission to the director of the Education Specialist degree program. The committee may recommend that certain standardized examinations be completed or that the candidate be interviewed by the committee. The director of the major will recommend admission with full or provisional status to the Graduate College.

After review of the application data, the Graduate College will:

1. Assign program status and inform the student of it immediately.
  - a. **Full status** will be granted to those who meet all admission requirements.
  - b. **Provisional status** may be granted to those who do not fully qualify on some requirements. At the conclusion of the first term of enrollment, the status will be re-evaluated.
  - c. Admission will be **denied** students whose qualifications do not meet the requirements and if the admissions committee decides provisional status is not warranted.
2. Assign an adviser to assist in developing a degree program and registering for the first term.

## PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience and (3) certification of degree program completion by the program director, the following Program Specific Primary Evaluation Processes are used: application for admission; degree candidacy and final oral examination.

## DEGREE PROGRAM SUPERVISION

For the first enrollment, the student's program adviser will aid in developing a class schedule in keeping with degree requirements. Prior to enrolling for a second term, the student will prepare a total program plan in keeping with degree requirements and the student's special needs.

At that time, the Graduate College will appoint a supervisory committee consisting of three members of the graduate faculty.

The committee will act on the appropriateness of the student's degree program, approve the proposed field study, administer the oral comprehensive examination and recommend the award of the degree.

## TEACHING EXPERIENCE

This program is designed for people in education. It is felt that course work will be more significant for those who have some experience in teaching. Thus, no more than eight credits in the degree program may be completed prior to satisfying the requirement of two years of successful teaching experience.

## REQUIREMENTS FOR THE ED.S. DEGREE

Prior to the award of the Ed.S. degree, the following requirements will be met:

1. Completion of an approved degree program of 36 semester credits with an overall grade point average of at least 3.25.
2. Filing of an "Intent to Graduate" at least seven weeks prior to the expected graduation date.
3. Completion of a comprehensive examination, written and oral, at least three weeks prior to graduation.
4. Filing of an approved field study report and abstract at least one week prior to graduation.
5. Recommendation for the degree by the supervisory committee.

## TRANSFER OF CREDIT

A maximum of 18 semester hours of graduate credit may be transferred to meet the requirements of the Ed.S. degree. It must be appropriate to the degree program and awarded by an institution accredited for graduate level work. All credit to be counted toward the degree must have been completed within seven years of the date the degree is awarded.

## RESIDENCE REQUIREMENTS

Students may choose either of the following two options to meet the minimum graduate residency requirement.

Residency Option 1: One term of residence in which at least six credits are earned on the Stout campus excluding the field study.

Residency Option 2: Completion of a series of intensive, structured graduate seminars designed to meet expected outcomes of residency experiences.

## TIME LIMITS

All degree requirements, including transferred credit, must be completed within a seven-year period.

## CONCENTRATIONS WITHIN PROGRAM

Two concentrations are available within the Ed.S. degree program, they are: (1) industry and technology and (2) professional education.

## INDUSTRY AND TECHNOLOGY CONCENTRATION

The Education Specialist degree program in industrial and vocational education—industry and technology concentration at Stout is designed for the graduate student desiring a broad educational experience leading to a professional career as a teacher of industrial and technical subjects in high schools, vocational schools, technical institutes, junior colleges and universities.

Content for the advanced degree program will be drawn from three bodies of knowledge: (a) industry and technology, (b) applied research and (c) professional education. Selection of these three components is based on the assumption that the holder of an advanced degree should be a scholar in the discipline (industry and technology), capable of solution of problems through applied research techniques (researcher) and a practicing educator.

## CURRICULUM

The Ed.S. degree with a concentration in industry and technology consists of three groups of courses and/or experiences as follows: industry and technology, applied research and professional education.

The industry and technology component consists of courses basic to the science of industry and technology and a field study. This component is intended to be flexible in

order to afford candidates an opportunity to broaden themselves if their prior work has been narrow or to study in depth a particular conceptual area of industry and technology if their prior work has been broad in nature. In this component the advanced graduate student will have the opportunity to take additional physics, chemistry, mathematics, sociology, psychology and course work to develop a level of competence in one or two conceptual areas in their substantive teaching field. The impacts of technology, a course required of all students in the program, permits the students to look at how their teaching area has had an effect on people and society. The culminating activity is a field study which is six semester credits of the 18 semester credits required in this component.

The main purpose of the field study is to provide students with an opportunity to apply and synthesize the contents of their program. Education Specialists are encouraged to select practical problems related to their professional appointment, or if not presently employed, to select a problem from their discipline.

The applied research component consists of course work in computer science, research design and procedures, and statistics. A holder of an advanced degree should have an intimate knowledge of research design, measurement and statistics, and a broad background in the problems associated with industrial and vocational education.

The professional education component consists of courses in the foundational areas of education and curriculum and instruction. There is a growing body of knowledge and research dealing with education and the instructional process. It is imperative that the Education Specialist be able to implement current innovative educational practices and thought into the curriculum and the teaching process.

The three components are shown below as they appear in the curriculum requirements for the degree.

## PROGRAM PLAN

To qualify for the degree of Education Specialist with a concentration in industry and technology requires that the student earn not less than 36 semester credits beyond the master's degree which will be distributed as follows:

		Total
	Sem. Hrs.	Sem. Hrs.
Industry and Technology . . . . .		16-20
Required:		
195-733 Impacts of Technology	2	
190-890 Field Study in Industry and Technology	6	
Selectives	8-12	
Applied Research . . . . .		6-10
Required:		
354-741 Computer Programming Techniques	2	
421-816 Instrumentation for Research	3	
Selectives	1-5	
Professional Education . . . . .		6-10
Required:		
479-850 Psychology of Development	3	
421-811 Structuring Knowledge	2	
Selectives	1-5	

## PROFESSIONAL EDUCATION CONCENTRATION

This concentration of the Education Specialist degree in industrial and vocational education has been designed to further the individual who is committed to additional depth in preparation as a professional educator in the areas of curriculum and instruction and the supervision of instruction.

Content for the advanced degree program will be drawn from three bodies of knowledge: (a) professional education, (b) applied research and (c) industry and technology. Selection of these three components is based on the assumption that the holder of an advanced degree should be a practicing educator, capable of solving problems through applied research techniques and a scholar within a discipline.

## CURRICULUM

The curriculum consists of three groups of courses and/or experiences as follows: professional education (curriculum and instruction and the supervision of instruction), applied research, and industry and technology.

The professional education component has two sub-components: curriculum and instruction and the supervision of instruction.

Curriculum and instruction involves the advanced graduate student in curriculum engineering, instructional systems, instructional strategies, structuring knowledge, princi-

ples of learning, guidance of learning activities, identification and determination of instructional content, and computer assisted instruction as related to industrial and vocational education.

Supervision of instruction involves policy developments, cost analysis, cost effectiveness, program evaluation review techniques, accountability in education, decision making models, evaluation systems, improvement of instruction, financial aspects, coordination, leadership procedures, management information systems, and management techniques as related to industrial and vocational education. The culminating activity is a field study which is six semester credits of the total (16-20 credits) in this component. The field study provides the opportunity to put into practice some aspect of the program that will benefit both the student and the institutional setting where the student is employed or aspires to be employed.

The applied research component consists of course work in management information systems, instrumentation for research, employment and training research, and planning. A holder of an advanced degree should have knowledge of research design, measurement and statistics and an understanding of problems associated with industrial and vocational education.

The industry and technology component consists of courses in the sciences basic to industry and technology (math, computer science, sociology, psychology, communication and economics) and the impacts of technology on society. The three components are shown below with a listing of the required courses for the program.

## PROGRAM PLAN

To qualify for the degree of Education Specialist Professional Education Concentration, requires that the student earn not less than 36 semester credits beyond the master's degree which will be distributed as follows:

		Total
	Sem. Hrs.	Sem. Hrs.
Professional Education . . . . .		16-20
Required:		
421-890 Field Study in Professional Education	6	
421-811 Structuring Knowledge	2	
Selectives	8-12	
Applied Research . . . . .		6-10
Required:		
421-816 Instrumentation for Research	3	
Selectives	3-7	
Industry and Technology . . . . .		6-10
Required:		
195-733 Impacts of Technology	2	
479-850 Psychology of Development	3	
Selectives	1-5	

## PREPARATION FOR FURTHER INDEPENDENT AND PROFESSIONAL DEVELOPMENT

The student should confer with the program adviser (chairman of supervisory committee) in choosing elective credits to complete the 36 hour degree requirement. There is considerable flexibility in the program with regard to electives, and they may be taken as needed to fulfill the individual goals and objectives of the student. Generally electives may be chosen from the following:

### I. INDUSTRY AND TECHNOLOGY

#### A. Sciences Basic to Industry and Technology

1. Economics		
320-610 Contemporary American Economic Problems . . .	3	
320-615 Contemporary International Economic Problems	3	
320-720 Labor and Industrial Relations . . . . .	2	
2. Physics		
372-xxx Physics Elective . . . . .	3	
3. Sociology		
387-525 Sociology of Leisure . . . . .	3	
387-540 Sociology of Work . . . . .	3	
387-560 Sociology of Juvenile Delinquency . . . . .	3	

4. Speech		
391-508	Speech Skills for Business and Industry .....	2
391-512	Speech Skills for Educators .....	2
5. Psychology		
479-850	Psychology of Development .....	3
<b>B. Science of Industry and Technology</b>		
1. Energy and Transportation		
110-614	Transmission and Drive Trains .....	2
110-702	Recent Developments in Power Technology .....	2
110-798	Problems in Energy and Transportation .....	2-6
2. Graphic Communications		
130-557	Color Separation .....	2
130-629	Land Use Planning .....	3
130-636	Computer Assisted Design Problems .....	2
130-718	Recent Developments in Industrial Graphics .....	3
130-798	Problems in Industry and Technology .....	2-6
3. Industrial Management		
150-500	Engineering Economy .....	3
150-650	Introduction to Operations Research .....	3
4. Materials and Processes		
170-301	Technology—Resources—Environment .....	2
170-401	Solid Waste Technology .....	3
170-515	Metallurgy .....	3
170-506	Maintenance of Processing Equipment .....	3
170-713	Wood Properties 1: Structure and Characteristics .....	3
170-798	Problems in Industry and Technology .....	2-6
5. Industrial Teacher Education		
I90-739	Introduction to Problems of Industry/Technology	I
<b>II. APPLIED RESEARCH</b>		
<b>A. Research Design and Procedures</b>		
421-733	Survey Procedures .....	2
421-816	Instrumentation for Research .....	3
421-742	Program Evaluation .....	3
<b>B. Computer Science</b>		
354-640	Computer Use in Education .....	3
354-741	Computer Programming Techniques .....	2
<b>III. PROFESSIONAL EDUCATION</b>		
<b>A. Foundations</b>		
421-700	Philosophy of Modern Education .....	2
421-705	Social Thought of American Educators .....	2
479-730	Advanced Psychology of Learning .....	2
<b>B. Curriculum and Instruction</b>		
1. Audio-Visual		
120-732	Planning Media Facilities .....	2
120-740	Instructional Development .....	2
2. Guidance		
413-750	Appraising the Individual .....	2
413-752	Group Dynamics .....	2
413-890	Multiple Counseling and Sensitivity Training .....	2
459-717	Occupational Analysis and Information .....	2
3. Education		
421-714	Teaching Strategies .....	4
421-750	Curriculum Theory and Practice .....	2
421-799	Independent Study .....	2
421-811	Structuring Knowledge .....	2
4. Industrial Teacher Education		
190-708	Issues in Technology Education .....	2
190-710	Curricular Innovations in Technology Education .....	2
190-638	Course Construction .....	2
5. Vocational Education		
199-534	Task Analysis .....	2

199-560	Cooperative Occupational Education Programs . . . . .	2
199-708	Issues in Vocational, Technical and Adult Education . . . . .	2
199-674	Adult Education . . . . .	2
199-710	Coordination and Supervision of Vocational Education . . . . .	2
199-746	Seminar in Vocational Education . . . . .	2
199-799	Independent Study . . . . .	2
199-780	Internship Vocational Education . . . . .	4-8
6. Vocational Rehabilitation		
459-717	Occupational Analysis and Information . . . . .	2
C. Supervision and Administration		
1. Education		
150-600	Organizational Leadership . . . . .	3
150-740	Introduction to Decision Theory . . . . .	3
150-750	Organizational Development . . . . .	3
479-579	Public Relations . . . . .	2
421-702	Principles of Supervision . . . . .	2
421-726	Administration . . . . .	2
421-727	Supervision of Student Teachers . . . . .	2
421-742	Program Evaluation . . . . .	3
421-830	Educational Administrative Behavior . . . . .	3
120-740	Instructional Development . . . . .	2
120-760	Media Services . . . . .	2
2. Vocational Education		
199-710	Coordination and Supervision of Vocational Education . . . . .	2
199-792	Administration—Vocational, Technical/ Adult Education . . . . .	2
199-784	Internship - Local Vocational Education Coordinator (LVEC) . . . . .	4-8
199-780	Internship Vocational Education . . . . .	4-8

# SCHOOL OF HOME ECONOMICS

Dr. J. Anthony Samenfink, Dean  
Dr. Mary Thompson, Associate Dean

## CLOTHING, TEXTILES AND RELATED ART

Dr. Judith Herr, Program Director

### GRADUATE FACULTY

Dr. Donna Albrecht, Professor  
Mr. C. Thomas Allen, Assistant Professor  
Dr. Stowe Badenoch, Associate Professor  
Dr. Hinda-Rose Bizem, Assistant Professor  
Mr. James Buergermeister, Assistant Professor  
Dr. Jeanette Coufal, Associate Professor  
Dr. Lorraine C. Dahlke, Professor  
Dr. Thomas Franklin, Professor  
Dr. Annette Fraser, Assistant Professor  
Dr. William Gartner, Associate Professor  
Dr. Sandra Gill, Professor  
Dr. Bette A. Hanson, Professor  
Dr. Janette Hare, Assistant Professor  
Dr. Kenneth G. Heintz, Professor  
Dr. Judith Herr, Professor  
Dr. Max Hines, Assistant Professor  
Mr. Joseph Holland, Assistant Professor  
Dr. Priscilla Huffman, Professor  
Dr. Jafar Jafari, Associate Professor  
Dr. Margaret James, Professor  
Dr. Judith Jax, Professor  
Dr. Joy Jocelyn, Assistant Professor  
Dr. Janice Keil, Professor  
Dr. Leslie Koepke, Associate Professor  
Dr. Renee Lynch, Assistant Professor  
Dr. Rita Mahan, Professor  
Dr. Marian C. Marion, Professor  
Mr. Philip McGuirk, Assistant Professor  
Dr. Michael McIntosh, Assistant Professor  
Dr. Charles Metelka, Professor  
Mr. Eugene Mielke, Assistant Professor  
Dr. Arthur Muller, Professor  
Dr. Leland L. Nicholls, Professor  
Ms. Anita Pershern, Assistant Professor  
Dr. Mary Jane Rains, Associate Professor  
Dr. Robert Salt, Assistant Professor  
Dr. J. Anthony Samenfink, Professor  
Dr. Denise Skinner, Professor  
Dr. Janice Timmer, Associate Professor  
Dr. Mary Ann Townsend, Assistant Professor  
Dr. John M. Williams, Associate Professor  
Dr. Anita Wilson, Professor  
Dr. Thomas Wood, Assistant Professor  
Dr. Karen Zimmerman, Professor

Master of Science Degree. The program in clothing, textiles and related art provides an opportunity for development of professional competencies in clothing, textiles, textile design and/or fashion merchandising. It prepares students for professional positions in business, merchandising, industry, or extension services or provides concentrated study for persons planning to teach at the secondary post-secondary or college level. An individualized program will be planned with the program adviser.

A student may choose a concentration in either clothing, textiles, textile design, or fashion merchandising, with electives chosen from an area which will support the major concentration. Programs for students planning to teach may include courses from two emphases and courses in professional education.

Learning experiences in the immediate professional setting include: national study tour to fashion industry, textile study tour, thesis in clothing and textiles, problems in clothing and textiles, textile design option and field experience.

### ADMISSION

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75.

In addition to persons with a background in clothing, textiles and related art, students from art, the physical sciences, business and related fields may wish to enter the program. The background preparation required for each concentration is as follows:

**Clothing:** Students selecting the clothing concentration should have completed basic courses in apparel construction, textiles, principles of apparel design and a design course.

**Textiles:** Students selecting the textiles concentration should have completed courses in textiles, chemistry, and clothing and textiles industry.

**Textile Design:** Students selecting the concentration in textile design must have completed a distribution of nine credits in total selected from both textiles and design.

**Fashion Merchandising:** Students selecting the concentration in fashion merchandising must have had two years experience in a related position or complete three credits each of textiles, management, sales, accounting, marketing and basic retailing.

A deficiency in these admission requirements does not preclude admission, but it may require completion of additional undergraduate work and/or increase the amount of graduate credit required to earn the degree.

### PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience and (3) certification of degree program completion by the program director, the following Program Specific Primary Evaluation Processes are used: program application; student advisement and program plan.

### REQUIREMENTS

The requirements for this degree include: (a) completion of at least 30 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students - 700-800 level; (b) approval for degree candidacy at the appropriate time; and (c) a required course distribution as outlined below.

Preparation in Research (6-10 credits)		Credits
421-740	Research Foundations .....	4
214-770	Thesis-Clothing and Textiles (or) .....	6
214-768	Problems in Clothing and Textiles and Designs (or) .....	2
214-769	Option Thesis Design .....	6

**Preparation in Professional Core (4 credits)**

Choose two of the following:

214-760	Seminar in Clothing .....	2
214-740	Seminar in Textiles .....	2
214-790	Seminar in Textile Art .....	2
214-730	Seminar in Fashion Merchandising .....	2

**Preparation in Concentration (Select one concentration)****Concentration in Clothing (12-20 credits)**

214-610	History of Costume: Ancient to European .....	3
214-611	History of American Costume .....	3
214-617	Social-Psychological Aspects of Clothing .....	3
214-639	National Study Tour to Fashion Industry .....	1
214-680	Draping .....	3
214-681	Apparel Design-Draping .....	1
214-765	Workshop in Clothing and Textiles .....	1-2
214-780	Advanced Draping .....	1
214-781	Advanced Flat Pattern .....	2
214-799	Independent Study .....	1-3

**Concentration in Textiles (12-20 credits)**

214-545	Textiles for Interiors .....	2
214-550	Textile Evaluation .....	3
214-590	Practicum in Textile Design (or) .....	3
214-650	Textile Science .....	3
214-693	Structural Design and Weaving .....	2
214-695	Historic and Contemporary Fabrics .....	3
214-755	Topics in Clothing and Textiles .....	1-2
214-765	Workshop in Clothing and Textiles .....	1-2
214-799	Independent Study .....	1-3
311-521	Textile Chemistry .....	3

**Concentration in Textile Design (12-20 credits)**

214-590	Practicum in Textile Design .....	3
214-591	Natural Dyeing and Hand Spinning .....	2
214-690	Advanced Fiber Design .....	1
214-693	Structural Design and Weaving .....	2
214-694	Advanced Weaving Studio .....	2
214-695	Historic and Contemporary Fabrics .....	3
214-792	Advanced Practicum in Textile Printing .....	3
304-522, 525, 526, 527, 528, 602, 604	.....	3-6
304-503	Design .....	3
120-504	Elementary Photography .....	2

**Concentration in Fashion Merchandising (12-20 credits)**

214-525	Men's and Boy's Merchandising .....	1
214-527	Store Management .....	3
214-610	History of Costume: Ancient to European .....	3
214-611	History of American Costume .....	3
214-617	Social-Psychological Aspects of Clothing .....	3
214-625	Mass Merchandising .....	2
214-639	National Study Tour to Fashion Industry .....	1
214-529	Fashion Merchandising Internship .....	6-8*
214-765	Workshop in Clothing and Textiles .....	1-2
214-799	Independent Study .....	1-3
304-534	Fashion Illustration .....	3
320-720	Labor and Industrial Relations .....	2
326-515	Technical Writing .....	3
421-702	Principles of Supervision .....	2
479-582	Human Resource Management (or) .....	3
150-600	Organizational Leadership .....	3

\*Four credits of internship required for those without retailing experience. Persons with retailing experience may not receive more than 4 credits for internship.

**Preparation for Further Individual Development (To total 30 credits)**

**Supporting electives** may be chosen from any of the following areas: art, psychology, sociology, economics, management, business, chemistry, administration, communication, vocational education, anthropology and history.

**Concentration in Teaching (18-20 credits)**

Select at least 12 credits from the individual concentrations above, plus six credits from education.

# FOOD SCIENCE AND NUTRITION

Dr. Janice Timmer, Program Director

## GRADUATE FACULTY

Dr. Donna Albrecht, Professor  
Mr. C. Thomas Allen, Assistant Professor  
Dr. Stowe Badenoch, Associate Professor  
Dr. Linda-Rose Bizem, Assistant Professor  
Mr. James Buergermeister, Assistant Professor  
Dr. Jeanette Coufal, Associate Professor  
Dr. Lorraine C. Dahlke, Professor  
Dr. Thomas Franklin, Professor  
Dr. Annette Fraser, Assistant Professor  
Dr. William Gartner, Associate Professor  
Dr. Sandra Gill, Professor  
Dr. Bette A. Hanson, Professor  
Dr. Janette Hare, Assistant Professor  
Dr. Kenneth G. Heintz, Professor  
Dr. Judith Herr, Professor  
Dr. Max Hines, Assistant Professor  
Mr. Joseph Holland, Assistant Professor  
Dr. Priscilla Huffman, Professor  
Dr. Jafar Jafari, Associate Professor  
Dr. Margaret James, Professor  
Dr. Judith Jax, Professor  
Dr. Joy Jocelyn, Assistant Professor  
Dr. Gordon Jones, Professor  
Dr. Janice Keil, Professor  
Dr. Leslie Koepke, Associate Professor  
Dr. Renee Lynch, Assistant Professor  
Dr. Rita Mahan, Professor  
Dr. Marian C. Marion, Professor  
Mr. Philip McGuirk, Assistant Professor  
Dr. Michael McIntosh, Assistant Professor  
Dr. Charles Metelka, Professor  
Mr. Eugene Mielke, Assistant Professor  
Dr. William Mueller, Professor  
Dr. Arthur Muller, Professor  
Mr. George Nelson, Professor  
Dr. Leeland Nicholls, Professor  
Dr. Martin Ondrus, Professor  
Ms. Anita Pershern, Assistant Professor  
Dr. Mary Jane Rains, Associate Professor  
Dr. Robert Salt, Assistant Professor  
Dr. J. Anthony Samenfink, Professor  
Dr. Denise Skinner, Professor  
Dr. Janice Timmer, Associate Professor  
Dr. Mary Ann Townsend, Assistant Professor  
Dr. John M. Williams, Associate Professor  
Dr. Anita Wilson, Professor  
Dr. Richard Wilson, Associate Professor  
Dr. Thomas Wood, Assistant Professor  
Dr. Gerald Zimmerman, Professor  
Dr. Karen Zimmerman, Professor

**Master of Science.** The goal of this program is to increase professional proficiency, to introduce research procedures and to promote precision in communication. Those who complete the academic requirements for this advanced degree should be able to think more independently and to respond intelligently to challenging ideas. The program prepares students for advanced positions in teaching, dietetics, a wide range of opportunities in business and industry, further education, and can be used as part of the requirements to become a Registered Dietitian. Programs of study are individualized in consultation with the program director to meet the students' needs and goals.

Learning experiences include traditional classes, clinical experience in health care and community agencies, businesses, field trips, laboratory experimentation, thesis, research paper and seminar participation. All students participate in weekly research presentations by faculty and fellow students and are encouraged to present their research at the Annual Graduate Research Day.

## ADMISSION

To be admitted to this program with full status, the applicant must have a bachelor's degree from an accredited college or university, with courses in organic and biochemistry, microbiology, physiology, foods and advanced nutrition, and have an overall grade point average of at least 3.0. Applicants with a grade point average between 2.5 and 3.0 may qualify for probational admission.

Students from a variety of educational backgrounds are eligible for admission. In addition to home economics majors, students from the biological, chemical and social sciences will find appropriate applications within the program. Students who do not have a course in European or American foods, will be required to take a beginning foods course as a deficiency.

A deficiency in these admission requirements does not preclude admission, but may necessitate completion of additional undergraduate courses and/or increase the number of graduate credits required to earn the degree.

## PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience and (3) certification of degree program completion by the program director, the following Program Specific Primary Evaluation Processes are used: program application; degree candidacy; research topic approval and intent to graduate.

## REQUIREMENTS

The requirements for this degree include the following: (a) completion of at least 30 semester credits with an overall grade point average of 3.0 or better; (b) inclusion of a minimum of 15 of the 30 credits in courses open only to graduate students—700 level; (c) approval of degree candidacy at the appropriate time; and (d) completion of the research and professional requirements.

Research Preparation (6-10 Cr.)		Credits
421-740	Research Foundations .....	4
229-770	Thesis in Food Science and Nutrition (or) .....	6
229-747	Problems in Food Science and Nutrition .....	2

A concentration may be selected from those below or patterns of advisement developed in consultation with the program director to meet individual needs of the student. All advisement patterns include the research preparation requirements.

**Professional Preparation (14-24 Cr.)**  
Select 14-24 credits from concentration A, B or C, or 20-24 credits from concentration D or E

A—Foods (14-24 Cr.)		Credits
229-620	Food Styling .....	3
229-638	Experimental Foods .....	3
229-642	Advanced Foods .....	2
229-650	Food Processing .....	3
229-661	Social and Cultural Aspects of Food .....	2
229-701	Trends in Nutrition .....	2

229-706	Instructional Techniques in Food Systems .....	2
229-708	Food Seminar .....	2
229-715	Menu Analysis and Planning .....	3
229-720	Workshop in Foods .....	1
229-725	History of Food .....	3
229-740	Food Preservation Technology .....	3
229-742	Sensory Evaluation of Food .....	2
229-746	Food Innovations .....	3
229-756	Advanced Experimental Foods .....	3
229-799	Independent Studies in Food Science .....	1
308-506	Food Microbiology .....	3
311-515	Food Chemistry .....	3
311-535	Instrumental Methods of Analysis .....	3

**B—Nutrition (14-24 Cr.)**

229-606	Nutrition Education .....	3
229-618	Diet Therapy .....	4
229-630	Food Behavior .....	3
229-633	Maternal and Child Nutrition .....	3
229-680	Community Nutrition .....	3
229-701	Trends in Nutrition .....	1-2
229-702	Minerals and Vitamins .....	3
229-705	Geriatric Nutrition .....	2
229-710	Clinical Nutrition .....	3
229-711	Nutrition Seminar .....	2
229-712	Practicum in Community Nutrition Programs .....	1-3
229-721	Workshop in Nutrition Programs .....	1
229-729	Proteins .....	3
229-736	Carbohydrates and Lipids .....	3
229-799	Independent Studies in Nutrition .....	1

**C—Food and Nutrition (14-24 Cr.)**

In consultation with the program director select courses from concentrations A and B with a minimum of 5 credits from the concentration of lesser interest.

**D—Food and Food Service Administration (20-24 Cr.)**

**Food (8-10 Cr.)**

229-620	Food Styling .....	3
229-638	Experimental Foods .....	3
229-642	Advanced Foods .....	2
229-661	Social and Cultural Aspects of Food .....	2
229-708	Food Seminar .....	2
229-720	Workshop in Foods .....	1
229-725	History of Food .....	3
229-740	Food Preservation Technology .....	3
229-742	Sensory Evaluation of Food .....	2
229-746	Food Innovations .....	3
229-756	Advanced Experimental Food .....	3

and:

**Food Service Administration (12-14 Cr.)**

150-600	Organizational Leadership .....	3
229-701	Trends in Nutrition .....	1-2
229-706	Instructional Techniques in Food Systems .....	2
229-715	Menu Analysis and Planning .....	3
245-521	Food Service Equipment .....	2
245-626	Hospitality Industry Employee and Labor Relations .....	2
245-656	Microwave Oven .....	2
245-670	Hospitality—Financial Analysis, Budgeting and Forecasting .....	3
245-700	Management Concepts in Food Administration .....	1
245-701	Food Service Administration Management—Implementation .....	1
245-702	Operational Controls in Food Service Management .....	1
245-703	Seminar in Analysis of Food Service Management Systems .....	3
354-741	Computer Programming Techniques* .....	2

Those who have not taken 245-501 or 245-513 or the equivalent will be required to take these courses in addition to the concentration requirements.

\*Not required of those who have had the undergraduate equivalent experience.

**E—Nutrition and Food Service Administration (20-24 Cr.)**

<b>Nutrition (8-10 Cr.)</b>		<b>Credits</b>
229-633	Maternal and Child Nutrition . . . . .	3
229-702	Minerals and Vitamins . . . . .	3
229-705	Geriatric Nutrition . . . . .	2
229-710	Clinical Nutrition . . . . .	3
229-729	Proteins . . . . .	3
229-721	Workshop in Nutrition . . . . .	1
229-736	Carbohydrates and Lipids . . . . .	3

and:

<b>Food Service Administration (12-14 Cr.)</b>		
150-600	Organizational Leadership . . . . .	3
229-701	Trends in Nutrition . . . . .	1-2
229-706	Instructional Techniques in Food Systems . . . . .	2
229-715	Menu Analysis and Planning . . . . .	3
245-521	Food Service Equipment . . . . .	2
245-626	Hospitality Industry Employee and Labor Relations . . . . .	2
245-656	Microwave Oven . . . . .	2
245-670	Hospitality—Financial Analysis, Budgeting and Forecasting . . . . .	3
245-700	Management Concepts in Food Administration . . . . .	1
245-701	Food Service Administration Management—Implementation . . . . .	1
245-702	Operational Controls in Food Service Management . . . . .	1
245-703	Seminar in Analysis of Food Service Management . . . . .	3
354-741	Computer Programming Techniques* . . . . .	2

Those who have not taken 245-501 or 245-513 or the equivalent will be required to take those courses in addition to the concentration requirements.

\*Not required of those who have had the undergraduate equivalent experience.

**Preparation for Further Individual Development (0-10 Cr.)**

Electives are selected according to the candidate's background, interests and objectives. Frequently, courses are chosen from other areas of home economics or from the following fields: business administration, biology, chemistry, economics, education, English, journalism, applied mathematics, mathematics, physics, psychology, sociology, speech, vocational rehabilitation, industrial management and media technology.

# HOME ECONOMICS EDUCATION

Dr. Judy Herr, Program Director

## GRADUATE FACULTY

Dr. Donna Albrecht, Professor  
Mr. C. Thomas Allen, Assistant Professor  
Dr. Stowe Badenoch, Associate Professor  
Dr. Linda-Rose Buzem, Assistant Professor  
Mr. James Buergermeister, Assistant Professor  
Dr. Jeanette Coufal, Associate Professor  
Dr. Lorraine C. Dahlke, Professor  
Dr. Thomas Franklin, Professor  
Dr. Annette Fraser, Assistant Professor  
Dr. William Gartner, Associate Professor  
Dr. Sandra Gill, Professor  
Dr. Bette A. Hanson, Professor  
Dr. Janette Hare, Assistant Professor  
Dr. Kenneth G. Heintz, Professor  
Dr. Judith Herr, Professor  
Dr. Max Hines, Assistant Professor  
Mr. Joseph Holland, Assistant Professor  
Dr. Priscilla Huffman, Professor  
Dr. Jafar Jafari, Associate Professor  
Dr. Margaret James, Professor  
Dr. Judith Jax, Professor  
Dr. Joy Jocelyn, Assistant Professor  
Dr. Janice Keil, Professor  
Dr. Leslie Koepke, Associate Professor  
Dr. Renec Lynch, Assistant Professor  
Dr. Rita Mahan, Professor  
Dr. Marian C. Marion, Professor  
Mr. Philip McGuirk, Assistant Professor  
Dr. Michael McIntosh, Assistant Professor  
Dr. Charles Metelka, Professor  
Mr. Eugene Mielke, Assistant Professor  
Dr. Arthur Muller, Professor  
Dr. Leland L. Nicholls, Professor  
Ms. Anita Perschern, Assistant Professor  
Dr. Mary Jane Rains, Associate Professor  
Dr. Robert Salt, Assistant Professor  
Dr. J. Anthony Samensink, Professor  
Dr. Denise Skinner, Professor  
Dr. Janice Timmer, Associate Professor  
Dr. Mary Ann Townsend, Assistant Professor  
Dr. John M. Williams, Associate Professor  
Dr. Anita Wilson, Professor  
Dr. Thomas Wood, Assistant Professor  
Dr. Karen Zimmerman, Professor

Master of Science Degree. The home economics education program has three concentrations: comprehensive, specialized and certification. Within the comprehensive and specialized concentrations the student may emphasize one or more of the substantive areas of home economics, such as avocational education, child development, clothing and textiles, consumer education, family life, foods and nutrition, home equipment, hospitality, or housing and related art. The comprehensive concentration is for those persons who are in, or wish to prepare for a position which requires knowledge of several or all of the substantive components of home economics. The specialized concentration is for those persons who are in, or who wish to prepare for a position which requires in depth understanding of one of the substantive fields within home economics. The certification concentration is for persons who are not presently certified but who wish to become certified to teach secondary home economics in Wisconsin. Each student's program is individually planned to develop the competencies needed for positions such as elementary and secondary vocational teachers or non-vocational teachers; post-secondary or university-level teachers; state, district, or local extension educators; supervisors, coordinators, administrators; curriculum consultants in business and industry and other educational positions related to the comprehensive or specialized components of home economics.

Learning experiences in the immediate professional setting include: thesis in home economics education, problems in home economics education, externship in home economics and community education, European food study, national study tour in home economics, American study tour in child development, seminar on the culturally disadvantaged child and family, field experience and European study tour.

## PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience and (3) certification of degree program completion by the program director, the following Program Specific Primary Evaluation Processes are used: program application; student advisement; residency; program plan and intent to graduate.

## COMPREHENSIVE PROGRAM CONCENTRATION

### ADMISSION

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75. This bachelor's degree will generally have been earned in the major of home economics education. However, any of the specialized substantive areas of home economics may be appropriate. The determining factor in the choice of this concentration is that the applicant plans to teach or supervise in a comprehensive program of home economics upon completion of the degree program.

If the applicant has not completed specific courses in education, five credits will be required in addition to the 30 credits required for the master's degree. These credits may be completed concurrently with the graduate credits.

### REQUIREMENTS

The requirements of this degree include: (a) completion of a minimum of 30 semester hours of graduate credit with a minimum cumulative grade point average of 3.0 (such a variety of courses in home economics and in education is offered that these will be individually planned with the program director); a minimum of 15 credits must be in courses open only to graduate students—700 level; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined below:

#### Preparation in Research (6-10 Cr.)

**Professional Education (6-16 Cr.):** Home Economics Education (minimum of 6 Cr. is required, including 242-708 Curriculum Studies in Home Economics and 242-710 Applied Evaluation in Home Economics); Education; Vocational Education; Psychology; and Media Technology.

**Home Economics Substantive Area (6-18 Cr.):** Avocational Education, Child Development, Clothing and Textiles, Consumer Education, Family Life, Foods and Nutrition, Home Equipment, Home Management, Hospitality, Habitat, Parenting and Human Development.

## SPECIALIZED PROGRAM CONCENTRATION

### ADMISSION

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75.

An applicant whose goals involve teaching or supervising a specialized substantive component of home economics may have an undergraduate degree in any of a variety of fields. Examples of these include hotel and restaurant management, hospitality, food and lodging, food service, dietetics, fashion merchandising, clothing and textiles, early childhood, child development, family life, housing, consumer education, home management, nutrition education and home economics education.

It is recommended that those applicants holding a degree related to business or industry should have completed a minimum of two years of work experience in the specific professional substantive area.

Because this is a program which is planned primarily to prepare educators, the applicant may be required to complete a minimum of five credits, plus an approved teaching experience in addition to the 30 credits required for the master's degree. These credits may be completed concurrently with the graduate credits.

### REQUIREMENTS

The requirements of this degree include completion of a minimum of 30 semester hours of graduate credit with a minimum cumulative grade point average of 3.0. Because Stout offers a variety of courses in home economics and in education and the background and goals of persons in this track are as varied as the specializations, these 30 credits will be individually planned with the program director within the following guidelines.

#### **Preparation in Research (6-10 Cr.)**

**Professional Education (12-16 Cr.):** Home Economics Education, Education, Vocational Education, Psychology and Media Technology. 242-708 Curriculum Studies in Home Economics and 242-710 Applied Evaluation in Home Economics are required.

#### **Major Substantive Area (8-12 Cr.)**

## CERTIFICATION PROGRAM CONCENTRATION

### ADMISSION

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75. Prior to full admission the student must complete or have completed 34 credits in home economics as outlined below. These undergraduate credits may be completed concurrently with the graduate credits. The primary purpose of this concentration is to prepare persons who wish to become certified to teach secondary home economics in Wisconsin.

#### **Home Economics Credits Required Before Full Admission**

		Credits
212-124	Child Development I . . . . .	3
212-250	Individual and Family Relations . . . . .	3
214-140	Textiles . . . . .	3
229-124	Foods . . . . .	4
229-212	Nutrition . . . . .	3
229-308	Management of Food Production . . . . .	3
245-360	Consumer Economics . . . . .	3
245-275	Management of Family Resources . . . . .	3
212-xxx	Mini Courses in Family Relationships . . . . .	1
245-250	Family Housing . . . . .	3
2xx-xxx	Home Economics Electives* . . . . .	5

### REQUIREMENTS

The requirements for this degree include completion of a minimum of 30 semester hours of graduate credit with a minimum cumulative grade point average of 3.0. In order to be recommended for certification, the student must complete an approved student teaching

experience for undergraduate credit and meet human relations and mainstreaming requirements.

Preparation in Research (6-10 Cr.): 421-740 Research Foundations (4 Cr.) and 242-770 or 775 Research Paper (2-6 Cr.) are required.

Professional Education (12-16 Cr.): 479-730 Advanced Psychology of Learning (2 Cr.), 242-708 Curriculum Studies in Home Economics (2 Cr.), 421-682 Reading Methods in Secondary Schools (2 Cr.), 242-710 Applied Evaluation in Home Economics (2 Cr.), 421-714 Teaching Strategies (4 Cr.), 431-630 Mainstreaming Special Students (3 Cr.), and (0-4 Cr.) of electives are required.

Home Economics Substantive Area\* (12-16 Cr.): including 212-685 Seminar in Culturally Distinct Child and Family\*\* (3 Cr.); Electives.

Additional Undergraduate Requirements (8 Cr.): 242-443 Clinical Seminar in Home Economics Education (2 Cr.) and 242-444 Practicum in Teaching Home Economics (6 Cr.) are required.

\*For certification the student must have a total of six credits in each of the following areas: child development, family relations, food and nutrition, clothing and textiles, consumer education and management, and housing and equipment.

\*\*To be taken to fulfill the Wisconsin Department of Public Instruction human relations requirement.

# HOSPITALITY AND TOURISM

Dr. William Gartner, Program Director

## GRADUATE FACULTY

Dr. Donna Albrecht, Professor  
Dr. Stowe Badenoch, Associate Professor  
Dr. Hinda-Rose Bizem, Assistant Professor  
Mr. James Buergermeister, Assistant Professor  
Dr. Jeanette Coufal, Associate Professor  
Dr. Lorraine C. Dahlke, Professor  
Dr. Annette Fraser, Assistant Professor  
Dr. William Gartner, Associate Professor  
Dr. Richard Gebhart, Professor  
Dr. Sandra Gill, Professor  
Dr. David Graf, Professor  
Dr. Bette A. Hanson, Professor  
Dr. Janette Harc, Assistant Professor  
Dr. Kenneth G. Heintz, Professor  
Dr. Judith Herr, Professor  
Dr. Max Hines, Assistant Professor  
Mr. Joseph Holland, Assistant Professor  
Dr. Priscilla Huffman, Professor  
Dr. Jafar Jafari, Associate Professor  
Dr. Margaret James, Professor  
Dr. Judith Jax, Professor  
Dr. Joy Jocclyn, Assistant Professor  
Dr. Janice Keil, Professor  
Dr. Leslie Koepke, Associate Professor  
Dr. Renee Lynch, Assistant Professor  
Dr. Rita Mahan, Professor  
Dr. Marian C. Marion, Professor  
Mr. Philip McGuirk, Assistant Professor  
Dr. Michael McIntosh, Assistant Professor  
Dr. Charles Metelka, Professor  
Mr. Eugene Mielke, Assistant Professor  
Dr. Arthur Muller, Professor  
Dr. Orville Nelson, Professor  
Dr. Wayne Nero, Professor  
Dr. Leland L. Nicholls, Professor  
Ms. Anita Pershern, Assistant Professor  
Dr. Mary Jane Rains, Associate Professor  
Dr. Michael Ritland, Professor  
Dr. Robert Salt, Assistant Professor  
Dr. J. Anthony Samenfink, Professor  
Dr. Bruce Siebold, Professor  
Dr. Denise Skinner, Professor  
Dr. Janice Timmer, Associate Professor  
Dr. Mary Ann Townsend, Assistant Professor  
Dr. John M. Williams, Associate Professor  
Dr. Anita Wilson, Professor  
Dr. Thomas Wood, Assistant Professor  
Dr. Karen Zimmerman, Professor

Master of Science Degree. This program is especially designed for persons desiring to enhance management skills in the hospitality and tourism industries. The program goal is to select superior students and to provide them with an educational experience that will prepare them to make a significant contribution as professionals in the hospitality and tourism industry. At the completion of this program, graduate students will have enhanced their management abilities through:

1. Understanding the societal needs for leisure activities and the requirements for implementing hospitality and/or tourism programs responsive to these needs;
2. Developing the capability to resolve problems at the management level of hospitality and/or tourism organization;
3. Conducting and interpreting intra and interdisciplinary research;
4. A knowledge of literature germane to hospitality and/or tourism;
5. Understanding the network of relationships among the components of hospitality and/or tourism;
6. Identifying leading state, national, and international organizations in hospitality and/or tourism; and
7. Acquiring knowledge of sources of information germane to hospitality and/or tourism.
8. Applying computer capabilities to hospitality and/or tourism problems.

Learning experiences in the immediate professional setting include: thesis, seminar in hospitality and tourism, problems in habitational resources-tour, international study tour and internship.

## ADMISSION

To be admitted with full status to this program, the applicant must (1) hold a bachelor's degree from an accredited institution; (2) have an overall grade point average of at least 2.75 on a 4.0 scale. (A = 4)

This program is designed for applicants with an undergraduate major in hotel and restaurant management, or equivalent. However, applicants with bachelor's degrees in such fields as economics, anthropology, geography, marketing, business administration, recreation and foreign languages, travel/tourism and hotel/restaurant management. The records of applicants holding undergraduate degrees in these and other majors will be evaluated to determine if deficiency work will be required prior to full admission to the program. Those applicants whose preparation for the program is deemed to be deficient will be required to complete additional work, which may be at the undergraduate level, prior to being fully admitted to this graduate program.

Students seeking admission to the program will be expected to have had one course in each of the following areas or equivalent experience:

- |                            |                              |   |
|----------------------------|------------------------------|---|
| -Accounting                | -Restaurant operation        | -Introduction of tourism                              |
| -Economics                 | -Lodging administration      | -Development of tourism or tourism goods and services |
| -Sociology or Anthropology | -Food service administration |   |

Students must submit admission applications no later than June 1 for Fall term and November 1 for Spring term enrollment. Both a Graduate College application form and a program application form are required. All required admission documents (including official transcripts of all previous graduate and undergraduate work completed) must be received by Stout's Graduate office on or before these dates.

Students will be admitted on the basis of academic performance and other factors appropriate for consideration as follows:

- a. work experience in the hospitality and tourism industry.
- b. letters of recommendation from employers and/or previous instructors (request these forms from the program director).
- c. ratings of the applicant as judged by a screening committee, an interview and program director's recommendation.

## PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience and (3) certification of degree program completion by the program director, the following Program Specific Primary Evaluation Processes are used: program application; program seminar; degree candidacy and intent to graduate.

## REQUIREMENTS

The requirements for this degree include (a) completion of at least 36 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students 700-800 level; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined below.

### Preparation in Research (11 credits)

		Credits
245-780	Seminar in Hospitality and Tourism .....	1
421-740	Research Foundations .....	4
245-789	Thesis—Hospitality and Tourism*	6

### General Requirements (11 credits)

245-640	Sociocultural System of Tourism and Hospitality .....	3
245-710	Issues in Hospitality and Tourism .....	2
320-610	Contemporary American Economic Problems .....	3
387-525	Sociology of Leisure .....	3

### Professional Depth Requirements (7-9 credits)

245-625	Hospitality Industry Law and Liability .....	3
245-645	Geography of Tourism .....	3
245-670	Hospitality Analysis/Budgeting and Forecasting .....	3
245-682	Hospitality and the Handicapped Traveler .....	1
245-700	Management Concepts in Food Administration .....	1
245-701	Food Service Administration Management—Implementation .....	1
245-702	Operational Controls in Food Service Management .....	1
245-703	Analysis of Food Service Management .....	3

\*The creative intellectual inquiry component for this proposed program will be accommodated through the preparation by each student of a thesis. Theses may be of the usual type identified and completed on-campus within the university setting. They may also evolve from practical problems resulting from internships or field experiences (credit or non-credit) but which are still developed presented and defended to meet the usual standards for theses of the Graduate College.

### Electives (5-7 credits)

150-600	Organizational Leadership .....	3
150-700	Systems Analysis and Design .....	3
150-710	Seminar in Industrial Operation .....	3
160-690	Administrative and Business Policies .....	3
245-521	Food Service Equipment .....	3
245-621	Food Service Equipment Analysis .....	2
245-600	Integrated Management Systems—Hospitality .....	2
245-626	Hospitality Industry Employee and Labor Relation .....	2
245-681	Special Problems in Habitational Resources .....	2
245-7xx	Internship .....	1-6
160-679	Marketing Research .....	3
320-680	International Trade .....	3
320-720	Labor and Industrial Relations .....	2
326-518	Mass Communication in American Society .....	3
387-530	Sociology of the Community .....	3
479-579	Public Relations .....	2
421-714	Teaching Strategies .....	4
421-750	Curriculum Theory and Practice .....	2
100-500	Introduction to Futures Study .....	2

Other appropriate graduate courses may be approved as electives by the program director.

### APPLICATION DEADLINES FOR HOSPITALITY & TOURISM ARE:

For Fall Semester - Applications Accepted Until May 1

For Spring Semester - Applications Accepted Until October 1

# SCHOOL OF EDUCATION AND HUMAN SERVICES

Dr. Ed Biggerstaff, Dean  
Dr. Donald Stephenson, Associate Dean

## EDUCATION

Dr. Eugene Flug, Program Director

### GRADUATE FACULTY

Mr. C. Thomas Allen, Assistant Professor  
Dr. Charles Barnard, Professor  
Dr. Donald Baughman, Associate Professor  
Dr. M. James Bensen, Professor  
Dr. David Cook, Professor  
Dr. Gerald Davis, Professor  
Dr. John C. Deutscher, Professor  
Dr. Eugene Flug, Professor  
Dr. Tom Franklin, Professor  
Dr. Richard H. Gebhart, Professor  
Dr. Carlyle Gilbertson, Professor  
Dr. R. Pinckney Hall, Professor  
Dr. Bette Ann Hanson, Professor  
Ms. Carol Hogstad, Associate Professor  
Dr. Mary Hopkins-Best, Associate Professor  
Dr. Judith Jax, Professor  
Dr. Louis Klitzke, Professor  
Dr. David McNaughton, Professor  
Dr. Fred Menz, Professor  
Mr. Harley Misfeldt, Associate Professor  
Dr. Virginia Peter, Professor  
Dr. Mary Jane Rains, Associate Professor  
Dr. William M. Reynolds, Assistant Professor  
Dr. Michael Ritland, Professor  
Dr. Sue Schmitt, Professor  
Dr. Robert Sedlak, Professor  
Dr. Donald Stephenson, Professor  
Dr. John Stevenson, Professor  
Dr. Calvin L. Stoudt, Professor  
Ms. Margaret Winamaki, Assistant Professor  
Dr. Karen Zimmerman, Professor

Master of Science in Education. This program is intended to prepare a master or career teacher through the development of additional proficiency in the teaching process. It is especially designed for persons who have experience in teaching, and for persons in other settings, who are interested in enhancing their understanding of the learner, teacher behavior, the teaching-learning process, and research and evaluation. More specifically, this program is designed for:

1. Those bachelor's degree holders who are also certified teachers.
2. Those who are employed at the vocational-technical post-secondary level who hold a bachelor's degree in a content area and whose goal is to further develop professional skills.
3. Those bachelor's degree holders employed in other settings (business and industry) whose goals include the development of professional education skills.

Learning experiences in the immediate professional setting include thesis or field study.

### ADMISSION

To be admitted with full status to this program, the applicant must (1) hold a bachelor's degree from an accredited institution; (2) have an overall grade point average of at least 2.75, or an average of at least 2.90 in the last one-half of the undergraduate work, or an average of at least 3.0 for no less than 12 semester credits of graduate study.

### PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience and (3) certification of degree program completion by the program director, the following Program Specific Primary Evaluation Processes are used: program application; related work experience; degree candidacy; successful completion of final written and oral examinations; and intent to graduate.

### REQUIREMENTS

The requirements for this degree include: (a) completion of at least 30 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students - 700 level; (b) approval for degree candidacy at the appropriate time; (c) satisfactory completion of thesis or field study; and (d) a required course distribution as outlined below:

Preparation in Research		Credits
421-740	Research Foundations . . . . .	4
421-770	Thesis OR	
421-890	Field Study in Professional Education . . . . .	6

Preparation Basic to Program		
421-744	Seminar in Education . . . . .	2
421-712	Analysis of Teaching Behavior . . . . .	2
479-730	Advanced Psychology of Learning . . . . .	2
421-720	Instructional Processes . . . . .	3

Electives: Courses chosen in advance with the approval of the program director or designate . . . . .	11
Minimum total . . . . .	30

# GUIDANCE AND COUNSELING

Dr. Gerald F. Davis, Program Director

## GRADUATE FACULTY

Mr. C. Tomas Allen, Assistant Professor  
Dr. Richard Anderson, Professor  
Mr. William Bailey, Associate Professor  
Dr. Charles Barnard, Professor  
Dr. Donald Baughman, Associate Professor  
Dr. Edwin Biggerstaff, Professor  
Dr. David Cook, Professor  
Dr. Gerald Davis, Professor  
Dr. John C. Deutscher, Professor  
Dr. Howard Feldman, Associate Professor  
Dr. Tom Franklin, Professor  
Dr. Carlyle Gilbertson, Professor  
Dr. R. Pinckney Hall, Professor  
Mr. Richard Halmstad, Associate Professor  
Dr. Janette Hare, Assistant Professor  
Dr. Judith Herr, Professor  
Dr. Max Hines, Assistant Professor  
Dr. Paul Hoffman, Professor  
Ms. Carol Hogstad, Associate Professor  
Dr. Mary Hopkins-Best, Associate Professor  
Dr. Robert Hoyt, Professor  
Dr. Gust Jenson, Professor  
Dr. Lou Klitzke, Professor  
Dr. Leslie Koepke, Associate Professor  
Dr. David McNaughton, Professor  
Mr. Harlyn Mifeldt, Associate Professor  
Dr. Thomas Modahl, Professor  
Dr. Bruce Pamperin, Associate Professor  
Dr. Virginia Peter, Professor  
Dr. Mary Jane Rains, Associate Professor  
Dr. William Reynolds, Assistant Professor  
Dr. Michael Ritland, Professor  
Dr. Sue Schmitt, Professor  
Dr. A. Gary Searle, Professor  
Dr. Lorry Sedgwick, Professor  
Dr. Robert V. Sedlak, Professor  
Dr. Denise Skinner, Professor  
Dr. Donald J. Stephenson, Professor  
Dr. John Stevenson, Professor  
Dr. Calvin L. Stoudt, Professor  
Dr. John Williams, Associate Professor  
Dr. Karen Zimmerman, Professor

Master of Science Degree. The program in guidance and counseling provides a basic preparation in counseling. This can lead to certification by the State of Wisconsin for school counseling and employment in the public schools or to employment in a counseling position in other clinic and agency settings.

Students who seek certification from the Wisconsin Department of Public Instruction must choose either the elementary or the secondary school option, or may elect to meet both elementary and secondary requirements for certification as a school counselor on a K-12 basis. Students desiring to be certified for counseling positions in the Vocational, Technical and Adult Education System, and who can meet the teacher certification and experience requirement for that system, may elect to follow the secondary certification program or the vocational-technical school program.

Students interested in community or mental health agency counseling should apply for the degree without a concentration. Those with a specific interest in alcohol and drug abuse or employment counseling should apply for the appropriate concentration.

Learning experiences in the immediate professional setting include supervised counseling practicum and, in some concentrations, an internship.

## ADMISSION

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75.

Applicants for any of the school certification concentrations must hold a teaching certificate valid in Wisconsin and have completed two years of teaching experience to be eligible for endorsement as a school counselor. A two-semester internship following completion of the certification program provides a certification alternative for elementary and/or secondary school counseling, in lieu of two years of teaching in an elementary or secondary school. Only a limited number of students will be admitted to the internship program and no internship can be guaranteed.

## PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience (Plan A or B Research Paper), and (3) certification of degree program completion by the program director, the following Program Specific Primary Evaluation Processes are used: applicant's goals; counseling process laboratory; and practicum evaluation.

## REQUIREMENTS

The requirements for this degree include: (a) completion of at least 30 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students—700 level; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined below:

## SCHOOL CERTIFICATION CONCENTRATIONS

### Core Requirements (21-25 Credits)

Concentrations in Elementary and/or Secondary School Counseling, Vocational-Technical School Counseling, Employment Services Counseling, and the Degree Without Concentration have the following courses as core requirements:

		Credits
413-788	Counseling Process Lab . . . . .	3
413-675	Counseling Theory . . . . .	2
413-752	Group Dynamics . . . . .	2
489-753	Psychometric Theory and Application . . . . .	2
421-740	Research Foundations . . . . .	4
413-790	Supervised Counseling Practicum . . . . .	6
413-731 or 413-770	Problems in Counseling and Psychological Services (Plan B) . . . . .	2
	Thesis (Plan A) . . . . .	6

## SCHOOL COUNSELING CONCENTRATION

### Elementary and/or Secondary School

#### General Certification Requirements (19 Credits)

489-753A	Guidance Lab . . . . .	1
413-733	Career Development Process and Issues . . . . .	2
413-733A	Career Information Lab . . . . .	1
413-765	Organization and Administration of Guidance . . . . .	3
431-630	Mainstreaming the Special Student . . . . .	3
413-666	Alcoholism and Family Systems Intervention . . . . .	2
413-647	Behavior Problems of Children . . . . .	2
479-760	Personality . . . . .	2
387-710	Sociological Foundations for Guidance . . . . .	3

### ADDITIONAL CERTIFICATION REQUIREMENTS

#### Elementary School Counseling Only

413-629	Guidance in the Elementary School . . . . .	2
413-705	Play Therapy . . . . .	2
489-251	Child Psychology . . . . .	3
or		
*479-850	Psychology of Development . . . . .	3

#### Secondary School Counseling Concentration Only

413-787	Career Placement Services . . . . .	1
479-552	Adolescent Psychology . . . . .	3
or		

*479-850	Psychology of Development . . . . .	3
----------	-------------------------------------	---

\*May be used to satisfy both child and adolescent psychology requirements at K-12 Certification level.

### K-12 School Counseling

Students who wish to be endorsed for all levels of school counseling must meet all the requirements of both the elementary and secondary concentrations. In addition, the practicum placement, consisting of 300 hours of supervised counseling, will be divided between an elementary school and a secondary school placement.

### Internship Requirements

Students who will attain K-12 school counselor certification in Wisconsin and some other states through the internship are required to meet some minimum competencies in areas of teacher preparation dealing with curriculum development, organization of schools, the politics of education and the teaching-learning process. The following three courses enable the students to meet these competency areas. Substitutions or waivers may be made for students with previous equivalent course work or experience.

421-750	Curriculum Theory and Practice . . . . .	2
421-726	Administration . . . . .	2
421-536	Working with the Culturally Different . . . . .	2

## VOCATIONAL-TECHNICAL SCHOOL CONCENTRATION

In addition to the core requirements, persons desiring to attain certification as a VTAE counselor must complete the following course work:

1. All courses included in the K-12 school concentration general certification plan *except* 413-647 Behavior Problems of Children.
2. The additional certification requirements listed for the Secondary School Concentration.
3. Specialization Requirements:  
199-502 Principles of Vocational, Technical and Adult Education . . . . . 2  
199-792 Administration of Vocational, Technical and Adult Education . . . . . 2

A two-year teaching experience is required for VTAE counseling. There is *no* internship alternative.

## EMPLOYMENT COUNSELING CONCENTRATION

In addition to the core requirements, persons desiring to pursue a degree in the employment counseling concentration must complete the following course work:

413-733	Career Development Process and Issues .....	2
413-733A	Career Information Lab .....	1
459-717	Occupational Analysis and Information .....	2
199-534	Task Analysis .....	2
413-787	Career Placement Services .....	1 or 2
489-753A	Guidance Lab .....	1

There is no certification requirement for this concentration.

## DEGREE WITHOUT CONCENTRATION

Those students whose professional objectives are more general than those defined in the previously described concentrations have the option of taking the Core Requirements and developing a set of elective course work with the approval of the program director. Electives will be chosen that will best meet the professional interests and needs of the student. The practicum placement will be made in a setting as close as possible to the student's employment objectives. Available practicum placements and elective course work is best suited to those students who are interested in working as counselors in community agency settings.

## ALCOHOL AND DRUG ABUSE COUNSELING CONCENTRATION

### Core Requirements (31 Credits)

413-788	Counseling Process Lab .....	3
413-675	Counseling Theory .....	2
413-752	Group Dynamics .....	2
489-753	Psychometric Theory and Application .....	2
421-740	Research Foundations .....	4
413-775	AODA Practicum I .....	8
413-776	AODA Practicum II .....	8
413-731 or	Problems in Counseling and Psychological Services (Plan B) .....	8
413-770	Thesis (Plan A) .....	2
		6

### AODA Concentration Requirements (15 Credits)

413-718	Shame, Addiction and Substance Abuse .....	3
413-721	AODA Treatment Programs .....	3
413-666	Alcoholism and Family Systems Intervention .....	2
212-750	Systems of Marriage and Family Therapy .....	3
212-751	Marriage and Family Therapy Seminar .....	3
413-715	Orientation to Mental Health Counseling .....	1

### Psychology Requirements (4-6 Credits)

*479-760	Personality .....	2
*479-561	Abnormal Psychology .....	3
479-535	Motivation and Emotion .....	3
479-552	Adolescent Psychology .....	3
479-850	Psychology of Development .....	3
479-570	Assertive Training Procedure .....	2
479-730	Advanced Psychology of Learning .....	2
413-760	Theories/Techniques of Behavior Modification .....	2
413-705	Play Therapy .....	2
413-650	Behavior Problems of Adolescents .....	2
413-647	Behavior Problems of Children .....	2
413-571	Psychology of Marriage and the Family .....	2
479-696	Health Psychology .....	3
479-673	Psychology of Stress .....	2
489-745	Assessment of Personality .....	2
479-574	Psychology of Women .....	2

\*If 479-760 or 479-561 have not been taken, they are required as part of the graduate program. If one or both of these courses were taken as an undergraduate, select one or two other courses from this list as part of the program.

<b>Electives (9-11 Credits)</b>		<b>Credits</b>
421-742	Program Evaluation . . . . .	3
413-725	Counseling Special Populations . . . . .	3
413-694	Counseling Older Persons . . . . .	2
459-509	Introduction to Biofeedback . . . . .	3
459-510	Clinical Biofeedback Lab. . . . .	3
459-520	Rehabilitation of the Chemically Dependent . . . . .	3
303-610	Anthropology of Family Systems . . . . .	3
212-653	Relationship Communication Training . . . . .	2
212-760	Sex Therapy Seminar . . . . .	2
212-660	Current Topics in Sexuality . . . . .	1

#### **GENERAL COUNSELING**

A 48-credit concentration in general counseling has been approved; however, a number of courses specific to this program are in the process of being developed. Additional information can be provided by the program director.

#### **PREPARATION FOR FURTHER INDIVIDUAL AND PROFESSIONAL DEVELOPMENT**

Students who already hold a master's degree in some field of education but who are not certifiable for counseling may choose to meet certification requirements without the necessity of completing a second master's degree. The program director will evaluate transcripts and identify those courses that will be necessary for endorsement as a school counselor.

#### **FULL TIME OR PART TIME STUDY**

Extended field placement (practicum) required in these programs consists of 300 hours for one semester in the school certification concentrations. Part-time study while holding a full-time job is very difficult unless the employment provides considerable flexibility. The practicum may not be completed in the summer session because the time available is not extensive enough and regular school placements are not available. Therefore, full-time study for at least one calendar year is recommended. A substantial portion of all concentrations may be completed part time by attending summer sessions and during the regular semesters for late afternoon and evening classes. However, a commitment for at least one semester may be required at the point where the student is ready for the practicum field placement.

# MARRIAGE AND FAMILY THERAPY

Dr. Charles Barnard, Program Director

## GRADUATE FACULTY

Dr. C. Thomas Allen, Assistant Professor  
Dr. Charles Barnard, Professor  
Dr. David Cook, Professor  
Dr. John C. Deutscher, Professor  
Dr. Thomas Franklin, Professor  
Dr. Carlyle Gilbertson, Professor  
Dr. Max Hines, Assistant Professor  
Dr. Paul Hoffman, Professor  
Dr. Judith Jax, Professor  
Dr. Gust Jenson, Professor  
Dr. Leslie Koepke, Associate Professor  
Dr. David McNaughton, Professor  
Dr. Thomas Ninneman, Professor  
Dr. Anthony Samenfink, Professor  
Dr. Denise Skinner, Professor  
Dr. Calvin L. Stoudt, Professor  
Dr. John Williams, Associate Professor  
Dr. Karen Zimmerman, Professor

Master of Science Degree. The offerings are designed to develop specific competence in the following areas of marriage and family therapy: counseling services, consultation, coordination, referral, psychometric assessment and evaluation, and research design and procedures. This program is designed to prepare people for work in mental health clinics, family life agencies, hospitals, industry, schools and/or private practice. The core of the program is experientially and practically orientated. This program is fully accredited by the American Association for Marriage and Family Therapy.

Learning experiences in the immediate professional setting include: marriage and family therapy practicums.

## ADMISSION

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75. Applicants may be admitted on probationary status if their overall grade point average is at least 2.25, but less than 2.75. Applicants who have less than a 2.25 overall grade point average, but have relevant work experience since receiving the bachelor's degree and who are otherwise judged qualified as indicated below, may qualify for admission by taking a full credit load of selected undergraduate courses during the summer session or regular session and attaining a 3.0 grade point average.

It is recommended that the applicant have an undergraduate degree with major emphasis in one of the behavioral sciences or a closely related field. Applicants with deficiencies may be required to take additional undergraduate or graduate courses prior to attaining full status in the program. Students must complete the admissions process no later than March 15 of the year enrollment is planned. Both a Graduate College application form (obtainable from the Graduate College office) and a program application form (obtainable from the office of the program director) are required. Completion of the admission process means that all required admission documents must be in the Stout Graduate office and that program admission documents must be in the program director's office prior to March 15.

When the number of students applying exceeds the number that can be accommodated, students will be admitted on the basis of academic performance, and other factors appropriate for consideration as listed below:

1. Work experience in a helping profession, i.e., counseling, social work, psychology, agency work, clergy and education.
2. Letters of recommendation from employers and consumers of services provided by the applicant. (Request these forms from the program director.)
3. Ratings of the individual as determined by a screening committee and process evaluation.

## PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience and (3) certification of degree program completion by the program director, the following Program Specific Primary Evaluation Processes are used: program application; admissions interview; applicant's goals; practicum evaluation and intent to graduate.

## REQUIREMENTS

The requirements for this degree include: (a) completion of the 60-credit curriculum or demonstrated competence in the 60-credit curriculum with completion of at least 30 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students—700 level; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined below:

Professional Foundations (16 Cr.)	Credit
212-760 Sex Therapy Seminar .....	2
212-653 Relationship Communication Training .....	2
413-705 Play Therapy .....	2
413-675 Counseling Theory .....	2
479-760 Personality .....	2
479-561 Abnormal Psychology .....	3
303-610 Anthropological Study of Family Systems .....	3

**Research (6-10 Cr.)**

421-740	Research Foundations . . . . .	4
500-735	Investigations in Marriage and Family Counseling (or) . . . . .	2
	Thesis in Marriage and Family Counseling . . . . .	6

**Preparation Basic to Program (31 Cr.)**

212-750	Systems of Marriage and Family Therapy . . . . .	3
212-751	Marriage and Family Therapy Seminar . . . . .	3
212-793	Marriage and Family Therapy Practicum I . . . . .	4
212-794	Marriage and Family Therapy Practicum II . . . . .	4
413-744	Psychometric Aids to Marriage and Family Therapy . . . . .	2
413-793	Marriage and Family Therapy Practicum . . . . .	4
413-794	Marriage and Family Therapy Practicum . . . . .	4
413-795	Marriage and Family Therapy Practicum . . . . .	2
413-666	Alcoholism and Family Systems Intervention . . . . .	2
212-755	Professional Issues in Marriage and Family Therapy . . . . .	3

**Electives (7 Cr.)** Choose from courses such as the following:

212-580	Future of the Family . . . . .	1
212-607	Parent Counseling . . . . .	2
212-626	Special Topics in the Study of Family Life . . . . .	3
212-680	The Aging Person . . . . .	2
212-685	Seminar—The Culturally Distinct Child and Family . . . . .	3
212-707	Issues and Problems in Parent Education . . . . .	2
212-728	Family Life Issues . . . . .	2
245-676	Family Finance . . . . .	2
326-525	Writing Technical Articles . . . . .	3
326-546	Research Reporting . . . . .	3
387-525	Sociology of Leisure . . . . .	3
387-530	Sociology of the Community . . . . .	3
387-540	Sociology of Work . . . . .	3
387-560	Sociology of Juvenile Delinquency . . . . .	3
387-710	Sociological Foundations for Guidance . . . . .	3
413-647	Behavior Problems of Children . . . . .	2
413-715	Orientation to Mental Health Counseling . . . . .	1
413-721	Alcohol and Drug Abuse Treatment Programs . . . . .	3
413-760	Theories and Techniques of Behavior Modification . . . . .	2
413-785	Seminar in Hypnosis . . . . .	2
413-890	Multiple Counseling and Sensitivity Training . . . . .	2
413-892	Advanced Counseling Practicum . . . . .	2
459-585	Rehabilitation of the Mentally Retarded . . . . .	2
459-717	Occupational Analysis and Information . . . . .	2
479-632	Perception . . . . .	3
479-570	Assertive Training Procedures . . . . .	2
100-500	Introduction to Futures Study . . . . .	2
300-510	Introduction to Women's Studies . . . . .	2

# SCHOOL PSYCHOLOGY

Dr. Calvin Stoudt, Program Director

## GRADUATE FACULTY

Mr. C. Thomas Allen, Assistant Professor  
Dr. Charles Barnard, Professor  
Dr. James Byrd, Associate Professor  
Dr. Gerald Davis, Professor  
Dr. John Deutscher, Professor  
Mr. Paul Fenton, Assistant Professor  
Dr. Thomas Franklin, Professor  
Dr. Carlyle Gilbertson, Professor  
Dr. R. Pinckney Hall, Professor  
Dr. Bette Ann Hanson, Professor  
Dr. Paul Hoffman, Professor  
Ms. Carol Hogstad, Associate Professor  
Dr. Robert Hoyt, Professor  
Dr. Gust Jenson, Professor  
Dr. David McNaughton, Professor  
Dr. Fred Menz, Professor  
Dr. Thomas Modahl, Professor  
Dr. Orville Nelson, Professor  
Dr. Mary Jane Rains, Associate Professor  
Dr. Reinhard Schmidt, Assistant Professor  
Dr. Robert Sedlak, Professor  
Dr. John Sec, Associate Professor  
Dr. Calvin L. Stoudt, Professor  
Ms. Margaret Wiinamaki, Assistant Professor

Programs available: Master of Science in Education. Provisional School Psychologist certification and School Psychologist certification.

## MASTER OF SCIENCE IN EDUCATION

The school psychology program at Stout is a combined degree and certification program. The degree program occupies the first year of study on campus and leads to a Master of Science in Education degree. The certification program follows the degree program and leads to school psychological certification which is awarded, upon University recommendation, by the Wisconsin Department of Public Instruction or, if the applicant leaves Wisconsin, by the certifying agency of the state to which application is made. Admission to the degree and certification programs are separate processes, which include an admissions committee review of the admission material submitted by each applicant as described below.

## DEGREE PROGRAM ADMISSION

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75. Applicants may be admitted on probationary status if their overall grade point average is at least 2.25, but less than 2.75. Applicants who have less than a 2.25 overall grade point average, but have relevant work experience and who are otherwise judged qualified as indicated below, may qualify for admission by taking selected undergraduate courses, prescribed by the program director, and attaining a 3.0 or better grade point average.

Applicants should have an undergraduate degree with major emphasis in one of the behavioral sciences or a closely related field. As part of the preparation for entry to the master's degree program, a minimum of 15 credits in psychology and/or education courses in the following areas is required: developmental psychology, behavior disorders, personality, learning and/or statistics. The applicant with insufficient background may be required to take specific undergraduate courses in these areas in addition to those required within the graduate program.

Both the Graduate College Application form (obtainable from the Graduate College) and a Program Application form (obtainable from the program director) must be submitted by each applicant, including the documents identified on these two forms. Applicants must have presented and filed all required admissions documents by March 15 of the year enrollment is planned. After committee review, notification of acceptance will be made by April 15. If openings exist after this date, late applications will be accepted until June 15, with notification by July 15. When program openings occur, after the June 15 date, the program director and the committee will determine whether these applications may be acted upon for admission during the fall or winter term, or whether it may be necessary to hold admission until the next March 15 application deadline. In any event, the process for selecting applicants will be strictly followed in each and every case.

Students will be admitted on the basis of academic performance, admissibility to the Graduate College and rankings of a screening committee. These rankings are based on the following:

1. Work experience in a helping profession, i.e., counseling, social work, psychology, volunteer activities, etc.
2. Letters of recommendation from employers, instructors and consumers of services provided by the applicant.
3. An autobiographical statement in which the applicant has outlined interest, intent and goals regarding the profession of school psychology.
4. A personal or telephone interview with the school psychology program director and faculty.

## CERTIFICATION PROGRAM ADMISSION

Admission to the degree program does not ensure admission to the certification program. Rather, admission to the certification program occurs after members of faculty have had opportunity to observe the student's progress and to evaluate performance.

Application occurs after the student has maintained at least a 3.0 grade point average, has attained a grade of "B" or better in 413-788 Counseling Process Laboratory and is either currently maintaining grades of "B" or better or has completed with grades of "B" or better each of the following courses: 489-743 Advanced Individual Mental Testing; 489-768 Diagnosis and Remediation of Learning Disabilities; 489-768A Learning Disabilities—Diagnosis and Remediation; and 413-790 Supervised Counseling Practicum.

Application materials may be obtained from the program director. The process includes the submission of letters of recommendation by two Stout faculty members who are also certified school psychologists and from the counseling practicum supervisor. It also requires successful completion of a comprehensive examination given during the first week of summer school. Upon the basis of this information, a screening committee will recommend either admission to the certification program or termination from the certification program.

Practicing professionals who already possess an appropriate master's degree may wish to seek school psychological certification only. Such individuals must also apply for admission to the certification program, and to the Graduate College. To be considered for admission to the certification program, such applicants must be admitted to the Graduate College; provide three letters of recommendation from past employers and consumers of services; enroll for one term (summer session will suffice) in courses recommended by the program director; complete all aforementioned courses with a minimum of "B"; make application to the screening committee; and successfully complete the required comprehensive examination.

## PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience and (3) certification of degree program completion by the program director, the following Program Specific Primary Evaluation Processes are used: applicant's goals; counseling process laboratory and practicum evaluation.

## REQUIREMENTS

The program outlined below includes all requirements for provisional school psychologist and school psychologist certification. Completion of the degree will require the completion of a minimum of 30 credits and the inclusion of all courses below marked with an asterisk. Credits earned toward the degree must meet a grade point average of 3.0 or better. A minimum of 15 credits must be in courses open only to graduate students—700 level. Students must be approved for degree candidacy at the appropriate time.

All courses listed below are required for provisional school psychologist certification. However, students who have taken any of the psychology courses at the undergraduate level will not be required to repeat these courses at the graduate level. The minimum number of graduate credits required to be recommended for certification as a provisional school psychologist is 55; for school psychologist, 60 credits.

<b>Psychological Foundations</b>		<b>Credits</b>
479-850	Psychology of Development (or) . . . . .	3
479-251	Child Psychology (undergraduate credit only) (and) . . . . .	3
479-552	Adolescent Psychology . . . . .	3
479-561	Abnormal Psychology . . . . .	3
479-530	Psychology of Learning (or) . . . . .	3
479-730	Advanced Psychology of Learning . . . . .	2
479-760	Personality . . . . .	2
489-753	Psychometric Theory and Application* . . . . .	2
421-740	Research Foundations* . . . . .	4
489-731	Problems in School Psychology* (or) . . . . .	2
489-770	Thesis . . . . .	6

<b>Educational Foundations (6 Cr. minimum)</b>		
431-630	Mainstreaming Special Students . . . . .	3
421-750	Curriculum Theory and Practice (or) . . . . .	3
421-738	Elementary School Curriculum . . . . .	3
421-702	Principles of Supervision (or) . . . . .	3
421-726	Administration . . . . .	3

<b>Core Professional Training</b>		
489-753B	Lab—School Psychology* . . . . .	1
489-743	Advanced Individual Mental Testing* . . . . .	2
489-745	Assessment of Personality (projective techniques) . . . . .	2
489-766	Educational Applications of Neuropsychology . . . . .	2
489-768	Diagnosis and Remediation of Learning Disabilities* . . . . .	2
489-768A	Learning Disabilities—Diagnosis and Remediation* . . . . .	1
489-778	Psychoeducational Disability* . . . . .	3
212-545	Exceptional Needs and Programming—Early Childhood . . . . .	3
413-760	Theories and Techniques of Behavior Modification . . . . .	2
413-705	Play Therapy . . . . .	2

413-675	Counseling Theory .....	2
413-752	Group Dynamics .....	2
413-788	Counseling Process Laboratory* .....	3
413-790	Supervised Counseling Practicum* .....	3
489-701	Seminar in School Psychology Services* .....	2
489-781	Field Practicum in Psychoeducational Services I .....	3
489-782	Field Practicum in Psychoeducational Services II .....	3
489-784	Clinical Practicum in Psychoeducational Services I .....	2
489-785	Clinical Practicum in Psychoeducational Services II .....	2

\*Courses required for the degree.

## DEGREE WITHOUT CERTIFICATION

Students who do not intend to work in the schools as school psychologists but who are interested in the mental health field where a preparation emphasizing disabilities, assessment, diagnosis and counseling would be desirable, may elect to complete the degree only. This may be completed in one calendar year. Students choosing this option must take the required degree courses as marked above and electives to total a minimum of 30 credits.

### Preparation for further technical development.

Persons preparing to teach will select advanced courses in their subject field. This bulletin lists graduate level technical courses, which are available for graduate credit in certain individual situations. Students are urged to investigate advanced subject matter courses suitable to their particular teaching field; in some teaching areas it may be desirable to transfer them from another institution. However, prior approval to take any course should be obtained.

# VOCATIONAL REHABILITATION

Ms. Shirley Stewart, Program Director

## GRADUATE FACULTY

Dr. Charles Barnard, Professor  
Dr. Karl F. Botterbusch, Professor  
Dr. Darrell D. Coffey, Professor  
Dr. David W. Corthell, Professor  
Dr. Howard Feldman,  
Associate Professor  
Mr. Ron Fry, Instructor  
Dr. Carlyle Gilbertson, Professor  
Dr. Paul R. Hoffman, Professor  
Mr. Jerry Kirsling, Assistant Professor  
Mr. Anthony Langton,  
Assistant Professor  
Dr. Frederick E. Menz, Professor  
Dr. Thomas Modahl, Professor  
Dr. John Olson, Professor  
Dr. Walter A. Pruitt, Professor  
Dr. Mary Jane Rains, Associate  
Professor  
Dr. Arnold B. Sax, Professor  
Dr. Sue Schmitt, Associate Professor  
Dr. John See, Associate Professor  
Ms. Shirley Stewart, Assistant Professor  
Mr. John Wesolek, Associate Professor

Master of Science Degree with concentrations in vocational evaluation, work adjustment rehabilitation counseling and rehabilitation facility administration. This program is designed to develop specific and general competencies required of specialists in the areas of vocational evaluation, work adjustment rehabilitation counseling and rehabilitation facility administration. The master of science degree program may be completed in 12 months by successful full-time students (39-40 credits). Exceptions to program requirements may be requested by students upon successful demonstration of skills. Exceptions are ordinarily processed through the course instructor, program director and school dean. Students may elect to extend the time period beyond the 12-month period if they prefer to progress at a slower pace or if they prefer to become qualified in more than one concentration.

Learning experiences in the immediate professional setting include practicum experience, internship experience, job analysis experience and visitations.

## ADMISSION

Entrance into the program requires the unanimous vote of approval by the Vocational Rehabilitation Admissions Committee. Approval will be dependent upon: (1) demonstrated potential for successful academic achievement at the graduate level; (2) interest in working with the handicapped; (3) personal and social characteristics necessary to work with the handicapped, such as personal and social maturity and a combination of patience, empathy and understanding; (4) ability to work independently; (5) ability to carry out professional responsibilities; and, (6) familiarity with American industry or business (applicants from a foreign country may meet this requirement by presenting evidence of one year related work experience in American industry or business, or two years in business and industry in an industrial-oriented society plus proven facility with the English language).

The decision for admission or denial of admission by the Vocational Rehabilitation Program Admissions Committee will be based on the criteria above with information obtained from records of undergraduate and/or other graduate academic attainment, letters of reference from a minimum of three persons who are familiar with the applicant in work and/or educational settings, information provided on the program application form, and other data and information received by the committee. The committee may require an interview in any case where information submitted is insufficient for rendering a decision.

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75 or 2.90 for the last two years. Applicants may be admitted on probationary status if their overall grade point average is at least 2.25 but less than 2.75. Applicants who have less than a 2.25 overall grade point average but have related work experience since receiving their bachelor's degree may qualify for admission by taking a block of courses prescribed by the program director in which a "B" or better must be earned to gain admission to the program on probation. Work earned on trial status will normally be in addition to the usual degree requirements.

## PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience and (3) certification of degree program completion by the program director, the following Program Specific Primary Evaluation Processes are used: program application; practicum evaluation; internship evaluation; degree candidacy and intent to graduate.

## REQUIREMENTS

The requirements for this degree include: (a) completion of a minimum of 30 semester hours of graduate credit with an overall grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students—700 level; (b) a minimum grade of "B" or better in laboratory, practicum and internship courses; (c) approval for degree candidacy at the appropriate time; and (d) a course distribution as outlined below for the specific sub-major.

### Vocational Rehabilitation Professional Core (13-17 Credits)

		Credits
421-740	Research Foundations	4
459-585	Rehabilitation of the Mentally Retarded	2
459-703	Physical Disability and Work	3

459-737	Vocational Rehabilitation of the Mentally Ill .....	2
459-755	Problems in Vocational Rehabilitation (or) .....	2
459-770	Thesis in Vocational Rehabilitation .....	6

## CONCENTRATIONS (Select One)

### Concentration in Vocational Evaluation (26 credits)

459-706	Laboratory in Work Evaluation .....	2
459-707	Practicum in Work Evaluation .....	4
459-610	Psychological Testing with Handicapped People .....	2
459-680	Principles of Rehabilitation Counseling .....	3
459-670	Work Adjustment Services .....	2
459-717	Occupational Analysis and Information .....	2
459-723	Procedures of Work Evaluation .....	3
459-780	Administration in Vocational Rehabilitation .....	2
459-783	Internship in Work Evaluation .....	4-6-8

### Preparation for Further Individual and Professional Development

459-505	Sign Language 1 .....	3
459-700	Seminar in Vocational Rehabilitation .....	1-2
459-587	Handicapped Workers in Business and Industry .....	3
459-601	Rehabilitation in the Private Sector .....	2
459-605	Microcomputer Application for the Handicapped .....	2
459-661	Forensics for the Rehabilitation Professional .....	2
459-799	Independent Studies in Vocational Rehabilitation .....	1-2
489-743	Advanced Individual Mental Testing .....	2
413-752	Group Dynamics .....	2
413-760	Theories and Techniques of Behavior Modification .....	2
459-685	Group Processes in Rehabilitation Settings .....	2

### Concentration in Work Adjustment (19 credits)

459-610	Psychological Testing with Handicapped People .....	2
429-670	Work Adjustment Services .....	3
459-680	Principles of Rehabilitation Counseling .....	3
459-709	Practicum in Work Adjustment .....	3
459-717	Occupational Analysis and Information .....	2
459-789	Internship in Work Adjustment .....	6

### Preparation for Further Individual and Professional Development (4 Credits)

459-505	Sign Language I .....	3
459-700	Seminar in Vocational Rehabilitation .....	1-2
459-799	Independent Studies in Vocational Rehabilitation .....	1-2
479-530	Psychology of Learning .....	3
479-570	Assertive Training Procedures .....	2
479-730	Advanced Psychology of Learning .....	2
413-752	Group Dynamics .....	2
413-760	Theories and Techniques of Behavior Modification .....	2
212-680	The Aging Person .....	2
413-694	Counseling Older Persons .....	2
459-509	Introduction to Biofeedback .....	3
459-510	Clinical Biofeedback Laboratory .....	3
459-550	Independent Living .....	2
459-560	Technical Applications: Rehabilitation .....	2
459-565	Laboratory in Rehabilitation Technology .....	2
459-587	Handicapped Workers in Business and Industry .....	3
459-601	Rehabilitation in the Private Sector .....	2
459-661	Forensics for the Rehabilitation Professional .....	2
459-685	Group Processes in Rehabilitation Settings .....	2
459-688	Advanced Job Placement .....	2
459-723	Procedures of Work Evaluation .....	3
459-780	Administration in Vocational Rehabilitation .....	2

### Concentration in Rehabilitation counseling (25 Credits)

459-610	Psychological Testing with Handicapped People .....	2
459-700	Seminar in Vocational Rehabilitation .....	1
459-717	Occupational Analysis and Information .....	2
459-680	Principles of Rehabilitation Counseling .....	3
459-708	Practicum in Rehabilitation Counseling .....	3
459-787	Internship in Rehabilitation Counseling .....	6

459-685	Group Processes in Rehabilitation Settings .....	2
459-723	Procedures of Work Evaluation .....	3
413-788	Counseling Process Laboratory .....	3

**Preparation for Further Individual and Professional Development**

459-505	Sign Language 1 .....	3
459-601	Rehabilitation in the Private Sector .....	2
459-605	Microcomputer Application for the Handicapped .....	2
459-661	Forensics for the Rehabilitation Professional .....	2
459-670	Work Adjustment Services .....	2-3
459-780	Administration in Vocational Rehabilitation .....	2
459-799	Independent Studies in Vocational Rehabilitation .....	1-2
489-743	Advanced Individual Mental Testing .....	2
413-752	Group Dynamics .....	2
413-760	Theories and Techniques of Behavior Modification .....	2
479-530	Psychology of Learning .....	3
479-570	Assertive Training Procedures .....	2
459-509	Introduction to Biofeedback .....	3
459-510	Clinical Biofeedback Laboratory .....	3
459-688	Advanced Job Placement .....	2
413-694	Counseling Older Persons .....	2

**Concentration in Rehabilitation Facility Administration (23-27 Credits)**

**Required Courses**

459-587	Handicapped Workers in Business and Industry .....	3
459-605	Microcomputer Application for the Handicapped .....	2
459-705	Practicum in Rehabilitation Facility Administration .....	3
459-780	Administration in Vocational Rehabilitation .....	2
459-785	Internship-Rehabilitation Facility Administration .....	6
120-580	Microcomputer Applications-Words/Data .....	2

**Select one (1-3 Credits)**

150-510	Production Processing (or) .....	3
170-504	Computer Aided Manufacturing (or) .....	3
150-502	Time Management (or) .....	1
199-534	Task Analysis (or) .....	2
195-520	Technological Advances—Fast Forward 1 .....	2

**Select One (2-3 Credits)**

479-579	Public Relations (or) .....	2
479-582	Human Resource Management (or) .....	3
150-600	Organizational Leadership .....	3

**Select One (2-3 Credits)**

140-782	Safety Management (or) .....	3
140-781	Risk Management in Loss Control (or) .....	3
140-581	Occupational Safety/Loss Control .....	2-3

# Education Specialist Degree GUIDANCE AND COUNSELING

Dr. Carlyle W. Gilbertson, Program Director

## GRADUATE FACULTY

Dr. Charles Barnard, Professor  
Dr. Donald Baughman, Associate Professor  
Dr. Edwin Biggerstaff, Professor  
Dr. James Byrd, Associate Professor  
Dr. David Cook, Professor  
Dr. Jeanette Coufal, Associate Professor  
Dr. Gerald Davis, Professor  
Dr. John Deutscher, Professor  
Dr. Thomas Franklin, Professor  
Dr. Carlyle Gilbertson, Professor  
Dr. R. Pinckney Hall, Professor  
Dr. Mary Hopkins-Best, Associate Professor  
Dr. Robert Hoyt, Professor  
Dr. Gust Jenson, Professor  
Dr. Louis Klitzke, Professor  
Dr. David McNaughton, Professor  
Dr. Orville Nelson, Professor  
Dr. Virginia Peter, Professor  
Dr. John See, Associate Professor  
Dr. John Stevenson, Professor  
Dr. Calvin Stoudt, Professor  
Dr. John Williams, Associate Professor

The Education Specialist degree in guidance and counseling is an advanced degree requiring 36 semester credits beyond the master's degree.

The program is for people who have a master's degree in guidance and counseling or in one of the related helping professions. It is designed to enable the student to develop beyond the master's degree level those competencies required in the broad area of guidance, counseling, psychological services or related helping services.

Persons certifiable under the Wisconsin 30 credit School Counselor Certification plan who have master's degrees in other fields are eligible for this program.

## ADMISSION

Persons interested should contact the program director. Students seeking admission to the program should complete the following at least 30 days prior to the opening of the term in which they plan to begin their program and submit *all* materials directly to the Graduate College.

1. File an application for admission to the Ed.S. program.
2. Submit a current vita listing all pertinent biographical and educational data.
3. Present official transcripts of all college and university work completed certifying award of bachelor's and master's degrees. Master's degree work must be in guidance and counseling or an equivalent field with a cumulative grade point average of at least 3.25 on a 4.0 scale in all graduate work. Transcripts need not be submitted for work completed at Stout.
4. Evidence of at least two years of successful professional experience or the equivalent is desirable and letters attesting to such experience or professional promise should be requested from two appropriate persons.

After committee review of the application data and upon recommendation for admission, the Graduate College will:

1. Assign program status and inform the student of it immediately.
  - a. Full status will be granted to those who meet all admission requirements.
  - b. Provisional status may be granted to those who do not fully qualify on some requirements. At the conclusion of the first term of enrollment, the status will be re-evaluated.
  - c. Admission will be denied students whose qualifications do not meet the requirements and if the admissions committee decides provisional status is not warranted. The appropriateness for this program of an applicant's goals will be considered in the decision to admit or not.
2. Assign an adviser to assist in developing a degree program and registering for the first term.

## PRIMARY EVALUATION PROCESSES

In addition to the all-university requirements of (1) course grades as assigned by the faculty, (2) advisement of the Creative Intellectual Inquiry Experience (Field Study) and (3) certification of degree program completion by the program director, the following Program Specific Primary Evaluation Processes are used: applicant's goals; supervisory committee; application for degree candidacy and final oral examination.

## DEGREE PROGRAM SUPERVISION

For the first enrollment, the program director will aid the student in developing a class schedule in keeping with degree requirements. After completing a minimum of six credits, prior to enrolling for a second term, the Graduate College will appoint a Supervisory Committee which has been developed by the student and recommended by the Program Director. This committee will consist of a chairperson and two to four members of the graduate faculty.

This committee will help the student prepare a total program plan in keeping with the degree requirements and the student's special needs. It is desirable for this plan to be completed before enrollment for a second term. The committee will also approve and

supervise the student's field study, administer a comprehensive examination and recommend the awarding of the degree.

## REQUIREMENTS FOR THE ED.S. DEGREE

Prior to the award of the Ed.S. degree, the following requirements must be met.

1. Completion of an approved degree program with an overall grade point average of at least 3.25.
2. Filing of an "Intent to Graduate" form at least seven weeks prior to the expected graduation date.
3. Completion of a comprehensive examination, written and/or oral, at least three weeks prior to graduation.
4. Filing of an approved field study report and abstract at least one week prior to graduation.
5. Recommendation for the degree by the supervisory committee.

## TRANSFER OF CREDIT

A maximum of 12 semester hours of graduate credit may be transferred from other accredited graduate institutions to meet the requirements of the Ed.S. degree. It must be appropriate to the degree program and awarded by an institution accredited for graduate level work. All credit to be counted toward the degree must have been completed within seven years of the date the degree is awarded.

## RESIDENCE REQUIREMENTS

Students may choose either of the following two options to meet the minimum graduate residency requirement.

Residency option 1: One term of residence in which at least six credits are earned on the Stout campus excluding the field study.

Residency option 2: Completion of a series of intensive, structured graduate seminars designed to meet expected outcomes of residency experiences.

## TIME LIMITS

All degree requirements, including transferred credit, must be completed within a seven-year period.

## CURRICULUM

Content for the advanced degree program will be drawn from three bodies of knowledge: foundations, research and professional study. Selection of these three components is based on the assumption that the holder of an advanced degree should be a practicing professional, capable of solving problems through applied research techniques and a scholar in his profession.

The three components are shown below with a listing of the required courses for the program. The 700-level numbered courses are open to all graduate students. The 800-level numbered courses are intended primarily for post-master's degree work.

## PROGRAM PLAN

To qualify for the degree of Education Specialist, the student must earn not less than 36 semester credits beyond the master's degree which will be distributed as follows: selectives will be planned with the program adviser and supervisory committee to ensure the most appropriate program for each student.

Foundations (9-10 Cr.)	Credits
387-710 Sociological Foundations for Guidance .....	3
Selectives .....	6-7
Research and Evaluation (3-6 Cr.)	
421-816 Instrumentation for Research .....	3
421-742 Program Evaluation .....	3
Professional (20-24 Cr.)	
413-800 Field Study .....	6
Selectives .....	15

# Graduate Faculty Addendum

## School of Industry and Technology

Mr. Jack Gauzerville

## School of Liberal Studies Additional Appointments

Mr. Willard Bailey

Dr. Bea Bigony

Mr. Gene Blodorn

Mr. Fred C. Bresch

Dr. Oscar Carlson

Dr. Carol Dobeck

Dr. Gerane Deightery

Mr. Robert Evans

Dr. Ivan Garb

Dr. Nasser Hadidi

Dr. John Hunt

Dr. Richard Miller

Dr. William Mueller

Mr. George H. Nelson

Dr. Thomas Nunneman

Dr. Martin Ondrus

Mr. Eugene Ruenger

Dr. Susan Thurn

Mr. Richard J. Tyson

Mr. Ronald Verdon

Dr. Richard Wilson

Dr. Gerold L. Zimmerman

## Others

Dr. Richard Anderson

Dr. Wesley J. Tacy

Dr. R. Pinckney Hall

Dr. Robert J. Hoyt

Dr. David A. McNaughton

Dr. Nelva G. Rummels

Dr. Robert A. Sedlak

Dr. John B. Stevenson

Mr. John Van Osdale

## SPECIAL APPOINTMENTS

In addition to the regular appointments listed by program, the following special appointments to the Graduate Faculty have been made.

## School of Industry and Technology

Mr. Brooke Anson

Ms. Dorothy Dale

Mr. Van Henderson

Ms. Rosalyn Jacobson

Mr. William Kryslak

Mr. John Larson

Mr. George Martwan

Ms. Maureen Shiner

Mr. Courtney Nystedt

Mr. Thomas Phillips

Mr. Dennis Vandenbroucke

Mr. John Wright

## School of Home Economics

Mr. Thomas P. Phillips

Dr. Mary E. Thompson

## School of Liberal Studies

Dr. David Lin

Mr. Harold Newton

Dr. Claudia Smith

## School of Education and Human Services

Mr. Jeffrey Annis

Dr. Charles Colley

Dr. Tom Czerwinsky

Mr. Robert Dahlke

Ms. Cynthia Edwards Husby

Dr. Francis Garb

Dr. Duane Johnson

Mr. Gerald Kaiser

Ms. Deborah Matheson

Mr. Paul McInroy

Dr. Richard Miller

Ms. Lee Moreau

Mr. Allen Noll

Mr. Eugene Pichette

Mr. Christopher Smith

Dr. Dale Thomas

## Learning Resources

Mr. Van Henderson

Mr. Brooke Anson



# COURSE DESCRIPTIONS

## COURSE NUMBERING SYSTEM

Stout uses a six digit numbering system. The first three digits designate the school and department offering the course. The fourth digit indicates the level of the course. While 500-699 courses may carry graduate credit, such credit is generally awarded only to students in graduate degree programs with the approval of their advisor. 700-899 courses may be taken for graduate credit only. 800-899 courses are intended for students admitted to education specialist degree programs. Admitted candidates for master's degrees may also be permitted to enroll. Learning Resources courses formerly numbered in the 600 departmental series are renumbered with 120 as the departmental number.

**Campus-Bound Courses.** Those identified by department chairpersons and administrators as those that can be taught only on the campus at St. John for such reasons as need for specialized laboratory facilities, need for the Stout faculty expertise, access to the library and the like. The list is updated biannually through the school deans and is approved by the Vice Chancellor. A list is maintained in the Graduate College office. Those in this category in this bulletin goes to press are identified at the end of the course description with CB.

## INDUSTRY AND TECHNOLOGY

### INDUSTRY AND TECHNOLOGY (1)

- 100 Interdepartmental
- 110 Energy and Transportation
- 120 Media Technology
- 130 Graphic Communications
- 140 Safety
- 150 Industrial Management
- 160 Business
- 170 Materials and Processes
- 180, 195, 196, 198 and 199 Industrial and Marketing Education

### HOME ECONOMICS (2)

- 200 Interdepartmental
- 212 Human Development, Family Living and Community Educational Services

- 215 Apparel, Textiles and Design
- 229 Food Services and Nutrition
- 242 Human Development, Family Living and Community Educational Services
- 245 Residential Resources

### LITERAL STUDIES (3)

- 301 Anthropology 302 Mathematics
- 301 Art 303 Music
- 303 Biology 305 Philosophy
- 301 Chemistry 306 and 307 Physical Education and Athletics
- 320 Economics
- 326 English
- 326 Journalism
- 322 Physics
- 326 History
- 325 Political Science
- 328 Geography
- 327 Sociology and Social Work
- 328 History
- 334 Applied Mathematics
- 391 Speech

### EDUCATION AND HUMAN SERVICES (4)

- 405 Art Education
- 413 Counseling and Personnel Services
- 416 Distributive Education
- 421 Education
- 431 Special Education
- 459 Vocational Rehabilitation and Manpower Services
- 479 Psychology
- 489 School Psychology

### ACADEMIC AFFAIRS (5)

## COURSE SCHEDULING

A letter system has been developed to help students plan course schedules. Letters following course descriptions indicate when a course is usually offered. F-Fall Semester; W-Winter Semester; S-Summer Session; SD-Summer Session odd numbered years; SE-Summer Session even numbered years. Courses not lettered follow an usual pattern. The system does not guarantee that a course will be offered during a particular semester.

## INDUSTRY AND TECHNOLOGY

### INTERDEPARTMENTAL

**100-501** Introduction to Futures Study 2 Cr. Methods of future projection, including thought toward future alternatives; impact of future problems on major areas of human activity. F

**100-525** Advanced Futures Study 1 Cr. Student-designed futures study based on application of methods in student's program area. Prerequisite: 100-501

**100-590** Technical Service Schools 3-6.0 Cr. Some special-purpose technical courses offered by manufacturers are suitable for college credit. Guidelines: 1) student makes all arrangements with manufacturer offering course; 2) one credit is awarded for each full week (40 clock hours) of attendance; 3) student enrolls and pays fees at university prior to taking course; 4) approval of Dean of S.I.T. needed before enrolling for credit; 5) Graduate College approval required for students taking course for graduate credit. S

### ENERGY AND TRANSPORTATION

**110-501** Transportation 2 Cr. Needs, preparation, methods, destination and control of transportation as it relates to society and industry. Special course fee.

**110-504** Energy Technology 3 Cr. Energy sources, and power applications. Economic, political, and environmental ramifications. Conversion, storage, control, instrumentation, transmission, and utilization. Special course fee. F-W-S

**110-506** Energy Management 2 Cr. Evaluate industrial facilities and equipment for energy efficiency and feasibility of modification for improving consumption, current and alternative techniques for overcoming energy loss. Special course fee. F-W

<p><b>110-511 Carburetion and Emission</b> 2 Cr. Operational principles, diagnostic procedures and defective component repair of fuel and emission control systems. Prerequisite: 110-411. W</p>	<p><b>110-573 Computer Technology</b> 4 Cr. A detailed investigation in the design, manufacture and operation of computer and peripheral integrated circuits, including microprocessors, microcomputers, ROM, RAM, EPROM, bubble memory and various LSI circuits. Prerequisites: 110-517, 372-518, or equivalent. F</p>	<p><b>110-587 Optical Fiber Communications</b> 3 Cr. Fiber optic communications, optical waveguides, analog and digital modulation techniques, transmitters, receivers, repeater technology, analysis of signal distortion, losses and dispersions, applications in telecommunications and computer networks. Prerequisite: 110-280. F-W</p>
<p><b>110-523 Service Management</b> 2 Cr. Auto service management, planning and layout of service facilities, selection of tools and equipment, and development of curriculum and/or work schedule. W</p>	<p><b>110-574 Microprocessor Fundamentals</b> 3 Cr. Overview of present day microprocessor technology. Function, analysis and operation of selected microprocessors. Memory, input/output interfacing devices. Basic machine/assembly and structured language programming and hardware application. Prerequisite: 110-371.</p>	<p><b>110-595 Seminar 1-2</b> Cr. Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. F-W-S</p>
<p><b>110-541 Digital Logic Systems</b> 3 Cr. Digital circuit design and analysis using counters, registers and logic gates. Semiconductor memories -random access memories, read only memories, analog to digital converter, and digital to analog converters, arithmetic logic unit, multiplexers and demultiplexers. Prerequisite: 110-473.</p>	<p><b>110-575 Microprocessor Interfacing</b> 3 Cr. Interfacing principles of microprocessor based microcomputer systems. Input/output techniques, input/ output mapping, asynchronous/synchronous communication, parallel/serial conversion. Microprocessor application such as control systems, energy monitor, cooking and communications. Prerequisite: 110-574.</p>	<p><b>110-603 Problems in Power Transmission</b> 3 Cr. Analysis of power transmission problems. Recommendation of alternate solutions including advantages, disadvantages and economic considerations. Prerequisites: 110-240, 110-260, 110-303, 110-348, 110-548 or consent of instructor. W</p>
<p><b>110-542 Computer Applications in Electronics</b> 3 Cr. Microprocessor application at a system level. Use of hardware and software design aids such as: assemblers, text editors, compilers, read only memory emulators and system projects related to specific microprocessors. Introduction to the 16 bit microprocessors, 8 bit slice processors, signal processors and controllers. Prerequisite: 110-575.</p>	<p><b>110-582 Electronic Communication Systems</b> 3 Cr. Modern communication systems including transmission lines, wave guides, electromagnetic propagation, basic antenna theory. Introduction to digital communication including bit error probability, digital filtering, pulse code modulation and error detecting and correcting codes. Prerequisite: 110-482.</p>	<p><b>110-614 Transmission and Drive Trains</b> 2 Cr. Power transmission through gears, clutches and drives common to the automobiles. Fluid couplings, gear sets, differentials, transmissions and drive lines. Prerequisite: 110-314. W</p>
<p><b>110-551 Introduction to Microprocessors</b> 3 Cr. The examination of the working components of a simple microprocessor system, machine language programming, registers, memory, input-output and application such as: security, energy monitor, control, communication, transportation, etc. Prerequisites: 300-101 and basic electronic background or equivalent. F-W</p>	<p><b>110-583 Fundamentals of Control</b> 4 Cr. Analysis of elementary control systems via classical and Laplace transform techniques, frequency response and root locus plots, block diagrams and transfer functions, open and closed loop systems, stability considerations, digital to analog conversion, microprocessor based control systems. Prerequisites: 110-280, 110-574.</p>	<p><b>110-615 Engine Machining and Rebuilding</b> 3 Cr. Rebuilding of fourstroke cycle engines including all necessary precision machining; cylinders, blocks, valve trains and reciprocating parts. Prerequisite: junior standing. F-W</p>
<p><b>110-552 Electronic Communications</b> 3 Cr. Electrical/electronic communication systems; modulation, demodulation, r.f. and i.f. amplifiers, alignment, antennas, composite TV signal, receivers, transmitters. Prerequisite: 110-204. F</p>	<p><b>110-585 Electric Power Distribution</b> 3 Cr. Characteristics of large scale commercial power distribution systems, properties of transmission lines, power and frequency control in interconnected systems, load flow analysis using symmetrical components, fault analysis and load shedding techniques, stability, underground power transmission and DC power transmission. Prerequisites: 110-280, 110-372.</p>	<p><b>110-622 Automotive Practicum</b> 2 Cr. Troubleshooting and servicing all automobile functions as typically done in an auto service facility. F</p>
<p><b>110-553 Instrumentation and Control</b> 3 Cr. Industrial measurement, control, open loop, closed loop, analog, digital, electric/electronic, fluidic, mechanical, pneumatic. Prerequisite: 110-371. W</p>	<p><b>110-586 Instrumentation</b> 3 Cr. Descriptive and analysis of thermal, mechanical, acoustic, optical, pneumatic and electromagnetic sensors, measuring systems, calibration, performance of measuring systems, analog and digital signal conditional. Measurement of frequency and time and analysis and performance of display units. Prerequisite: 110-583.</p>	<p><b>110-630 Aviation/Aerospace Studies</b> 3 Cr. Classroom, field and optional flight experiences relating to aviation and aerospace industries; details of space exploration, federal licensing regulations, air traffic control and related career guidance information. F</p>
<p><b>110-554 Electronics/Robotics</b> 3 Cr. Robotic power and control systems, including base power sources, microprocessor controllers, data handling and programming. Special features such as voice synthesis, motion detection, light detection and noise detection are overviewed. Prerequisites: 110-551, 110-204.</p>	<p><b>110-587 Optical Fiber Communications</b> 3 Cr. Fiber optic communications, optical waveguides, analog and digital modulation techniques, transmitters, receivers, repeater technology, analysis of signal distortion, losses and dispersions, applications in telecommunications and computer networks. Prerequisite: 110-280. F-W</p>	<p><b>110-631 Private Pilot's Ground School</b> 3 Cr. Preparation for F.A.A. Private Pilot's Certificate: airplane utility, flight manuals, safety, federal aviation regulations, navigation, communication, weather, general aircraft operation and flight theory. F-W</p>
<p><b>110-635 Introduction to Flight</b> 2 Cr. Flying a single-engine aircraft: applied flight theory, dual flight instruction and solo flight. Prerequisite: 110-631.</p>	<p><b>110-683 Control Systems</b> 3 Cr. Introduction to modern control theory, state variable theory of control systems, controllability and observability, stability of linear and nonlinear systems, discrete time control systems, elementary concepts of optimal control systems, control law implementation using microprocessors. Prerequisites: 110-583, 355 275 (corequisite).</p>	<p><b>110-635 Introduction to Flight</b> 2 Cr. Flying a single-engine aircraft: applied flight theory, dual flight instruction and solo flight. Prerequisite: 110-631.</p>

**110-689 Development Practicum** 4 Cr. Project research and design, specification control drawing documentation. Project construction and a technical paper presentation. Special course fee. Prerequisite: advanced standing.

**110-695 Automotive Service Experience** 2 Cr. Off-campus job in garage or dealership provides skills and knowledge of automotive servicing beyond classroom and laboratory work. W

**110-702 Recent Developments in Power Technology** 2 Cr. Study of recent changes in the field of power technology design to provide the teacher with competencies related to these changes with respect to his needs as a teacher. Prerequisites: graduate standing, minimum of four semester hours of credit in Power or consent of chairman of Power Technology Department. F-W-S

**110-798 Problems in Energy and Transportation** 2-6 Cr. Substantive study and activity for specialists in the energy transportation field to include library work, field observation, laboratory work planned by the student and approved and supervised by a faculty consultant in power technology. Preparation of a technical report may be repeated for a maximum of six semester credits. Prerequisites: 190-739, concurrent registration, consent of department chairperson. F-W-S

## MEDIA TECHNOLOGY

**120-504 Elementary Photography** 2 Cr. Fundamentals of photography: aesthetics, basic theory, camera operation, film selection, lighting, roll-film processing, contact printing, enlarging and print finishing. Student must provide own camera. (Prior to June 1, 1988, this course was numbered 600-504.) Special course fee. F-W-S

**120-535 Film—History and Appreciation** 3 Cr. Evolution of motion picture film as medium of mass communication and aesthetic expression; contributions of noted film producers. (Prior to June 1, 1988, this course was numbered 600-535.) F

**120-540 TV—Appreciation and Criticism** 2 Cr. Analysis of major TV program types; positive and negative contributions of TV; commercials; children's programming; TV viewing diary; development of TV Action Plan. (Prior to June 1, 1988, this course was numbered 600-540.) W

**120-560 Audiovisual Communications** 2 Cr. Methods of evaluating and using audiovisual materials effectively; experience in operating equipment; basic techniques of media preparation. (Prior to June 1, 1988, this course was numbered 600-560.) F-W-S

**120-561 Advanced Graphic Production** 2 Cr. Advanced techniques for planning, designing and producing materials for instruction and graphic training. (Prior to June 1, 1988, this course was numbered 600-561.) Special course fee. Prerequisite: 120-560. F-W-S

**120-570 Computer-Assisted Interactive Video** 3 Cr. Design, production and evaluation of interactive video applications. Analysis of various hardware and software systems. Prerequisite: consent of instructor or curriculum course. S

**120-580 Microcomputer Applications—Words/Data** 2 Cr. Applications of specific commercial microcomputer programs for personal, professional, and student use. Emphasis on word processing, numerical and file management programs. (Prior to June 1, 1988, this course was numbered 600-580.) W-S

**120-605 Advanced Photography** 2 Cr. Advanced monochromatic photography: aesthetics, advanced theory, view-camera techniques, studio lighting, materials and equipment selection, sheet-film processing, specialized processes and techniques. (Prior to June 1, 1988, this course was numbered 600-605.) Special course fee. Prerequisite: 120-504. F-W-S

**120-612 Nature Photography** 2 Cr. Fundamentals of camera techniques composition, aesthetics, exposure and light in relationship to animals, plants, water, weather and landscapes. Special emphasis on proper photographic equipment and field techniques for nature photography. Prerequisites: 120-504 or consent of instructor, CAMERA REQUIRED F-W-S

**120-614 Slide Duplication and Copystand Techniques** 1 Cr. Selection and use of equipment for copystand work and slide duplication; discussion of and practice with filters and multiple exposures. Prerequisite: 120-504 or consent of instructor. S

**120-625 Broadcast TV Production Internship** 1-4 Cr. Practical experience in all phases of broadcast color television program production. Student develops internship program with teleproduction center manager. One credit per 40 hours of work experience. (Prior to June 1, 1988, this course was numbered 600-625.) Prerequisites: 120-630 and 120-632 or consent of instructor.

**120-630 Audio/Film/TV Production Fundamentals** 3 Cr. Instructional film, audiotape and videotape production fundamentals. For media technology majors; not open to those taking 391-554. (Prior to June 1, 1988, this course was numbered 600-630.) F-S

**120-640 Telecommunication Systems and Teleconferencing** 2 Cr. Interactive teleconferencing techniques. Applications, effective utilization and cost-effectiveness of information distribution systems, including telephone, television, teletext, videotext, viewdata, cable TV, slow-scan TV, and computers. Survey of transmission systems, including telephone lines, satellites, coaxial cable, microwave and fiber optics. (Prior to June 1, 1988, this course was numbered 600-640.) Special course fee. F-W-S

**120-645 Color Photography** 2 Cr. Aesthetics, color theory, film selection, lighting, copy techniques, slide duplication, reversal and negative color film processing, and color printing. (Prior to June 1, 1988 this course was numbered 600-645.) Special course fee. Prerequisite: 120-504. F-W-S

**120-654 Small Format Video Production** 1 Cr. Selection of small format video systems to meet varied production needs. Planning and shooting video programs using BETA or VHS camcorders or 8mm equipment. Participants must provide their own personal or institutional video equipment. S

**120-655 Slide/Tape and Multi-Image Production** 2 Cr. Practical experience in planning, producing, and presenting media productions for instruction/training. Advanced applications of photography, audio, video, and programming related to slide/tape and multi-image presentations. (Prior to June 1, 1988, this course was numbered 600-655.) Prerequisites: 120-560 and 120-630. W

**120-716 Media Selection and Evaluation** 3 Cr. Methods and procedures for identifying and using resources for selecting media materials and equipment for various instructional/training environments. (Prior to June 1, 1988, this course was numbered 600-716.)

**120-718 Introduction to Problems in Media Technology** 1 Cr. Selection criteria for problems in media technology and preparation of a detailed proposal to explore a particular problem. Take prior to or concurrently with 421-740. (Prior to June 1, 1988, this course was numbered 600-718.) Prerequisite: consent of instructor. F-S

**120-722 Problems in Media Technology** 2 Cr. Identification, selection, and completion of a problem in audio-visual communications, culminating in a Plan B paper. (Prior to June 1, 1988, this course was numbered 600-722) Prerequisite: 421-740. F-W-S

**120-732 Planning Media Facilities 2 Cr.** Planning physical facilities for media production and distribution centers; large group multi-media auditoria; small group instructional area; and mediated carrels. Consideration of technological and environmental factors. Emphasis on working relationships with architects. (Prior to June 1, 1988, this course was numbered 600-732.) Prerequisite: 120-560. SO

**120-740 Instructional Development 2 Cr.** Systems approach to instructional improvement. Identification and analysis of instructional needs; design of instructional alternatives; selection and development of instructional packages; and the evaluation and validation of the resulting products in terms of student learning. (Prior to June 1, 1988, this course was numbered 600-740.) Special course fee. Prerequisites: 120-560, 120-561. F-W-S

**120-750 Problems in Industry and Technology—Photography 2-6 Cr.** Substantive study and activity for specialists in the photography field to include library work, field observation, laboratory work planned by the student and approved and supervised by a faculty consultant in photography. Preparation of a technical report may be repeated for a maximum of six semester credits. (Prior to June 1, 1988, this course was numbered 600-750.) Prerequisites: 190-740 and consent of the department chairman.

**120-760 Managing Media Services 3 Cr.** Application of management systems to business and educational media programs. Emphasis on decision-making, planning and implementation, communication, supervision, and evaluation strategies. (Prior to June 1, 1988, this course was numbered 600-760.) Special course fee. F-W-S

**120-765 Practicum: Instructional Development 1-3 Cr.** Experience for the media technology student seeking employment in business/industry. (Prior to June 1, 1988, this course was numbered 600-765.) Prerequisites: 120-740 and permission of instructor F-W-S

**120-766 Practicum: Media Inservice 1 Cr.** Students will practice planning, developing, presenting, managing, and evaluating a variety of inservice experiences in instructional media. (Prior to June 1, 1988, this course was numbered 600-766.)

**120-770 Thesis—Media Technology 2-6 Cr.** Independent research under direction of investigation advisor. Selection of problem, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. (Prior to June 1, 1988, this course was numbered 600-770.) Prerequisites: 421-740, approval of major director. F-W-S

**120-780 Microcomputers in Media Centers 2 Cr.** Applications of microcomputers in the public school library/media center—cataloging, circulation, inventory, booking, budget, security, policy development, software selection/evaluation, in-service training. (Prior to June 1, 1988, this course was numbered 600-780.) Prerequisite: computer literate approval of instructor F-W-S

**120-788 Media Technology Internship 1-8 Cr.** Practical experience in the various operational aspects of a school, university, or special media center. The student will develop his internship program in conjunction with his major advisor and the media center director. (Prior to June 1, 1988, this course was numbered 600-788.) Prerequisite: consent of academic advisor. F-W-S

**120-790 Seminar 1-3 Cr.** Specific content is designed to upgrade the competencies and knowledge of the participants. Content for each offering will change to reflect the current state of the art in media technology. (Prior to June 1, 1988, this course was numbered 600-790.)

**120-792 Issues: 1 Cr.** Discussion of current issues, trends and directions in the school library media profession, including discussion topics generated during the annual Media Technology Conference. May be repeated. Not appropriate for Media Technology majors. Repeatable for credit. S

## GRAPHIC COMMUNICATIONS

**130-504 Communications and Information Systems 1-3 Cr.** Overview of the communications industry. Use of systems to create, process, transmit, receive and evaluate information. Special course fee. Prerequisite: 130-103. F-W-S

**130-505 Office Automation Technology 3 Cr.** Automation information concepts and technology used in office including both communication, storage, and retrieval systems. Emphasis on cost effective selection and implementation problems. Prerequisite: 130-103 or Consent of instructor F-W-S

**130-506 Introduction to Telephony 2 Cr.** Principles of current technologies, systems, and trends in telephone communication systems design and applications. Special course fee. F-W-S.

**130-507 Artificial Intelligence Applications in Business 2 Cr.** Artificial intelligence applications in business and industry with emphasis on office information system characteristics and implementation. Prerequisite: 130-505. F-W

**130-509 Business Applications in Desktop Publishing 1-2 Cr.** Office automation and information systems for generating business formats on a computer network. Computerized forms, summaries, and related graphics utilizing automated pagination software, and existing software systems print commands with laser printer characteristics. F-W-S

**130-526 Building Construction Specifications 2 Cr.** Construction specification organization and basic specification preparation skills; role of specifications in building process and relationship of specifications to other construction contract documents. F-W

**130-527 Site Engineering 2 Cr.** Use of surveying instruments, techniques and computation to measure and describe land configurations; construction surveying including contours, grades, cut and fill, and drainage; soil analysis. Special course fee. Prerequisites: 130-110 and trigonometry. F-W-S

**130-528 Structural Design 3 Cr.** Analysis, selection and delineation of concrete, steel and wood structural components and systems in buildings. Prerequisite: 130-291 or 372-325. F

**130-532 Mechanical Design 4 Cr.** Analysis and design of machine elements: gearing, bearings, shafting and friction devices. Prerequisites: 130-291 or 372-325, 130-592 or 372-533, 130-593. W

**130-537 Mechanical Design Drafting 2 Cr.** Design of a machine, specifications, layout, calculations, bills of material, detail and assembly drawings. Prerequisites: 130-311, 130-532 or concurrent registration. F

**130-543 Graphic Arts Production Techniques 2 Cr.** The study of techniques associated with the production of two-dimensional printed media, with emphasis on design, production and evaluation, also including client and printer relationships. Prerequisite: 130-366. Repeatable for credit. F-W-S

**130-545 Publications Production 1 Cr.** Principles of designing, printing and distributing publications for business, education and industry. Prerequisite: 130-140. Repeatable for credit. F-W-S

**130-557 Color Separation** 2 Cr. Color separation from reflected and transmission copy; filters and densitometry; direct and indirect photographic color separation methods. Special course fee. Prerequisite: 130-355 or consent of instructor. W

**130-561 Screen Printing** .5-2.0 Cr. Screen printing technology-applications, components and techniques. Survey of various materials and equipment used in screen printing. Production of screen printed products. Special course fee. Prerequisites: 130-140 or 214-592 or 304-518, the above courses OR consent of the instructor is required. F-W

**130-592 Mechanics of Machinery I** 3 Cr. Dynamics of machinery: rectilinear and curvilinear motion; translation and rotation of a rigid body, force-acceleration equation, impulse and momentum; work, power and energy; balancing and vibration. Prerequisites: 130-290 or 372-531, 355-153. W

**130-593 Mechanics of Machinery II** 3 Cr. Graphical analysis and synthesis of linkages, cams, gear trains, displacement, velocity, acceleration and dynamic forces. Prerequisite: 130-290 or 372-531. F

**130-595 Seminar** 1-2 Cr. (Title will reflect specific graphic and industrial communication content). Current and projected communication methods, concepts, technologies and innovations in graphic communications. Repeatable for credit. S

**130-629 Land Use Planning** 3 Cr. Area planning; problems in design of building complexes; exterior space, land use, relationships between buildings and supporting facilities; contemporary regional and city planning and its historical roots. Prerequisite: 130-325. F-W

**130-636 Computer Assisted Design Problems** 2 Cr. Computers in drafting and plotted design, design automation, mechanical design problem analysis for computers, mathematical and simulation models. Prerequisites: 130-230 and 354-141. W

**130-718 Recent Developments in Industrial Graphics** 3 Cr. The implementation of teaching currently accepted drafting theories and concepts as practiced by modern industry. New developments in materials and hardware and their utilization within the curriculum. Prerequisite: graduate standing or minimum of ten semester hours of credit in industrial graphic field or consent of the chairman of the Industrial Graphics Department. S

**130-798 Problems in Industry and Technology** 2-6 Cr. Substantive study and activity for specialists in the graphic arts field to include library work, field observation, laboratory work planned by the student and approved and supervised by a faculty consultant in graphic arts. Preparation of a technical report may be repeated for a maximum of six semester credits. Prerequisites: 190-739 and consent of department chairperson. Repeatable for credit. F-W-S

## SAFETY

**140-574 Alcohol, Drugs and Accident Prevention** 2-3 Cr. Impact of alcohol and drug use on accident prevention programs; current efforts to rehabilitate alcohol and drug abusers. SO

**140-575 Behavioral Approach to Accident Prevention** 2-3 Cr. Behavioral aspects of accident prevention from physiological, psychological, sociological and cultural perspectives; identifying, understanding and modifying attitudes and behavior. SE

**140-576 Driver Improvement Programs** 2 Cr. Driver improvement through educational methodology, curriculum planning and research; adult, mentally retarded, orthopedically handicapped, chronic violator and accident repeater programs. Prerequisite: six semester hours in Safety coursework.

**140-580 Driver Education for the Handicapped** 2-3 Cr. Curriculum content, instructional methods and techniques, legal implications, driving aids and financial assistance; lab work in teaching handicapped people to drive. S

**140-581 Occupational Safety/Loss Control** 2-3 Cr. Overview of occupational accident prevention programs: techniques of measurement, cost of accidents, locating and identifying accident sources and problems of selecting corrective action. Prerequisite: junior standing. F-W-S

**140-583 Voluntary OSHA Compliance** 2-3 Cr. Implications of Federal Occupational Safety and Health Act of 1970 on industrial operations, systematic self-inspection and compliance procedures. F-S

**140-584 Safety Engineering Standards** 2 Cr. Analysis of legal and voluntary industrial workplace standards and regulations. F

**140-586 Fire Protection/Prevention** 3 Cr. Behavior of fire: chemistry, protection, prevention and control. W

**140-587 Human Factors Engineering** 3 Cr. Man's physiological and psychological abilities in man/machine interface, working performance, reliability, comfort and safety; effective design of man and work environment as a cybernetic system. Prerequisites: 479-110, 354-130 or consent of instructor. F

**140-588 Construction Safety** 2 Cr. Analysis of hazards, control procedures and systems related to typical construction equipment, tools and materials safety problems. F-W

**140-589 Fleet Safety Management** 2 Cr. Controlling loss associated with motor fleet operations: selection, training and supervision of commercial drivers; regulatory controls. W

**140-590 Product/Service Liability** 2 Cr. An analysis of products liability losses, laws and controls. W

**140-700 Semiconductor Industry Loss Control** 1 Cr. Loss Control (Safety, Health) aspects of the Semiconductor Industry. Hazard identification, reduction and control. W

**140-771 Foundations in Safety** 3 Cr. Overview and interface of safety legislation, standards, and philosophies. Agency responsibilities and control. Comparative analysis of accident causation theories and models. Hazard counter-measures for home, school, traffic, recreation and occupational areas. F-S

**140-781 Risk Management in Loss Control** 3 Cr. An in-depth view of workers compensation, liability (general products) and property insurance, with respect to their respect on safety and health loss control. F

**140-782 Safety Management** 3 Cr. An in-depth study and application of current administrative, organizational, and supervisory practices, which are specifically and uniquely related to managing industrial or occupational accident prevention and loss control programs. W

**140-783 Field Problem in Accident Prevention/Loss Control** 3 Cr. An operational experience which requires identification of a technical and/or administrative problem in an occupational setting. The problem is researched, analyzed for alternative operational countermeasures, and field tested to determine the effectiveness of the solutions. F-W

**140-784 Safety Internship** 1-6 Cr. Full-time, supervised work and learning experience in an appropriate professional setting. F-W-S

**140-785 Seminar in Safety** 2 Cr. Current topics, trends and methods in loss control will be examined, discussed and evaluated. W

## INDUSTRIAL MANAGEMENT

**150-500 Engineering Economy** 2-3 Cr. Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation. Prerequisite: 150-200 or consent of instructor. F-W-S

**150-501 Seminar** 1-2 Cr. (Title will reflect specific business or management content.) Current topics in business and industrial management to meet specific needs of students enrolled. F-W

**150-502 Time Management** 1 Cr. Elements of time management, strategies and techniques in industrial and business environments. Analysis of time use by all levels of management.

**150-505 Product and Inventory Control** 3 Cr. Principles and techniques of minimizing cost of ordering, receiving, storing, issuing, scheduling, routing, dispatching, expediting, and controlling material, parts, sub-assemblies, and final assemblies of a manufacturing system. Prerequisite: 150-200 or 354-130 or 354-530. F-W

**150-510 Production Processing** 3 Cr. Production processes, especially product design as related to economic production; factors that influence choice and sequence of process to obtain end product. Prerequisite: 150-200. F-W

**150-514 Industrial Enterprise Practicum** 3 Cr. Organization and operation of an industrial company; election, designing, production planning, production, marketing and distribution of a product. Prerequisite: 150-115 or 150-150. F-W-S

**150-520 Quality Assurance** 3 Cr. Practical and statistical quality control in design and use of Quality Assurance Programs: Quality Engineering, Manufacturing Quality Assurance and Product Quality Assurance. Prerequisites: 150-200, 354-130 or 354-530. F-W-S

**150-525 Quality Management** 3 Cr. Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment. Prerequisites: 150-220 and 150-520. F-W-S

**150-530 Material Handling** 3 Cr. Principles of material handling; handling function, its role in production activities and problems of handling materials in industrial settings. Prerequisite: 150-200. F-W

**150-540 Time and Motion Study** 3 Cr. Methods engineering in business and industry: improving methods of performing and measuring work done by individuals or groups through motion analysis, charting techniques and principles of motion economy. Prerequisite: 150-200. F-W-S

**150-550 Plant Layout** 3 Cr. Principles and methods of solving plant layout and material handling problems. Prerequisite: 150-200. F-W

**150-570 Estimating and Analyzing Construction Costs** 3 Cr. Estimating and analyzing material, man-hours, equipment, methods of construction, overhead and profit and submitting these factors in the form of a bid. Prerequisites: 150-X98 and junior standing. F-W

**150-600 Organizational Leadership** 3 Cr. Supervisor's role in attaining organizational objectives through human resources management; supervisory skills of communication, motivation, initiation of change, discipline, delegation and grievance handling developed on basis of organizational and individual behavior concepts. Prerequisite: senior or graduate standing. F-W-S

**150-601 Management Consulting** 2 Cr. The organization and analysis of major elements of the consulting profession in management: 1) subject matter expertise, 2) marketing, 3) organizational development, 4) business principles for consultants and 5) communication skills; synthesis of the interdependent relationship of the major elements in the consultation process. F-W

**150-605 Production and Inventory Control Practicum** 2 Cr. Application of principles and techniques learned in 150-505 as part of Professional Semester/Manufacturing Laboratory. Prerequisite: 150-505.

**150-620 Quality Assurance—Practicum** 2 Cr. Application of principles and techniques learned in 150-520, as part of Professional Semester/Manufacturing Laboratory. Prerequisite: 150-520.

**150-630 Quality Circles** 2 Cr. Background and history of participative management in Japan and America, orientation as to the structure and sequential development of quality circles, industrial quality control data gathering techniques, problem solving methods, organizational politics, and meeting management methods simulated and analyzed. S

**150-640 Time and Motion Study Practicum** 2 Cr. Application of principles and techniques learned in 150-540, as part of Professional Semester/Manufacturing Laboratory. Prerequisite: 150-540.

**150-650 Introduction to Operations Research** 4 Cr. Business and industrial applications of operations research techniques using linear programming, decision models and Monte Carlo methods; problem applications in allocation, sequencing, waiting lines and competitive strategies. Prerequisite: 150-200. W

**150-660 Industrial Management** 2 Cr. Principles and methods of analyzing and solving industrial problems; application through case studies, management games and special problems. Prerequisite: senior standing. S

**150-670 Systems Approach to Construction Management** 3 Cr. Total concept of construction industry: contracting, financing, bidding, planning, organizing, coordinating, and controlling functions and techniques. Prerequisite: 150-570. F-W

**150-680 Production Management Practicum** 2 Cr. Application of principles and techniques of analyzing and solving production management problems learned in prior course work to manufacturing project in manufacturing laboratory. Prerequisite: consent of instructor. F-W

**150-700 Systems Analysis and Design** 3 Cr. A survey of design approaches to industrial research. Application of appropriate research tools to analyze and design jobs, organization, operating systems and product/ market studies. Prerequisite: graduate standing. F-W

**150-710 Seminar in Industrial Operation** 2 Cr. Discussion of current theory and practice of operation of engineering, marketing, manufacturing, financial administration and industrial relations aspects of industry. These integrated systems will be analyzed based upon the management of objectives concept. Prerequisite: graduate standing. F-W

**150-720 Foundations in Industrial Operations** 2 Cr. This course is designed to improve the student's competencies in all aspects of industrial technology. A major professor will be identified who will serve as a tutor in guiding the student's self-development program. There will be a culminating matriculation to candidacy examination to assure minimum proficiency standards. Prerequisite: graduate standing. F-W-S

**150-730 Advanced Technical Problems—Industrial Management** 2-6 Cr. Advanced study in industrial management, management control, product development or process and facility planning. Recent developments, advanced technical work, experimental work, and technical reports. A specific problem area for study in this course must be identified by the student prior to registering for this course. F-W-S

**150-740 Introduction to Decision Theory** 3 Cr. Application of quantitative methodology to the solution of industrial problems. Prerequisite: graduate standing. W

**150-750 Organizational Development** 3 Cr. Change agent skills for middle managers and external consultants to facilitate organizational health. Assessment, diagnosis, intervention, team building, and coaching of key organization personnel. Emphasis on practical methods for the development of various types of organizations. Prerequisite: 150-600 or consent of instructor. S

**150-760 Corporate Planning** 2 Cr. Introduction to corporate planning, strategy and policy. Orientation to generalized planning process and the outputs of planning system. A discussion of planning decision sub-system, strategic information sub-system, planning organizational sub-system and planning management sub-system. Prerequisite: consent of instructor. F-W

**150-780 Problems in Management Technology** 2-4 Cr. Identification, selection and completion of a problem in management technology culminating in a Plan B paper. Prerequisites: consent of instructor and approval of major advisor. F-W-S

**150-790 Field Project** 3 Cr. A capstone experience to integrate and synthesize previous learnings within the context of an industrial environment. The total integrated systems approach will be applied to an industrial project. This may be either research in a simulated multi-factor industrial situation or an internship assignment. Prerequisite: consent of instructor. F-W-S

## BUSINESS ADMINISTRATION

**160-520 Seminar** 1-3 Cr. Current topics in business. (Title will reflect specific business content). Repeatable for credit.

**160-573 Legal Aspects of Construction** 3 Cr. Analysis of contracts and documents used in building construction industry; rights of the parties. Labor relations: law and labor, legality of strikes, legality of picketing and boycott as economic pressure, unfair labor practices, employer and union, rights and responsibilities of supervisor and worker. F

**160-585 International Marketing** 3 Cr. Principles and policies of marketing goods and services in international markets. Concepts, strategies and policies of world trade and multinational firms. Prerequisite: 160-330.

**160-588 International Business Practicum** 3 Cr. Assist an actual business in developing their international marketing plan. Students, under the supervision of a faculty member, determine a product's foreign marketability. Special course fee. Prerequisites: 160-585 and consent of instructor.

**160-601 Legal Environment of Business** 2 Cr. Changing relationship of government and industry: regulatory legislation, administrative agencies, national policies and social control. F-W

**160-638 Industrial Distribution Seminar** 2 Cr. Culminating and synthesizing experiences in Industrial Distribution. Individual topics will vary from semester to semester reflecting the latest changes in the field. Special course fee. Prerequisite: 160-438. F

**160-679 Marketing Research** 3 Cr. Experimental and survey techniques to secure information for successful marketing; primary and secondary sources; data collection, compilation and analysis methods; effective communication of conclusions and recommendations to management. Prerequisites: 160-330 and 320-325. F-W

**160-690 Administrative and Business Policies** 3 Cr. Integrates previous business studies, develops ability to solve business problems through scientific approach to decision-making. Business cases on policy formulation and administration: manufacturing, marketing, finance, accounting, personnel and public relations functions. Prerequisites: 160-330 and 160-340 and 320-210 or 320-201 and senior standing. F-W

**160-746 Marketing for Nonprofit Organizations** 2 Cr. Basic marketing principles applied to the nonprofit organization. Special attention to research techniques, image measurement, promotional strategies and marketing objectives. F-W

## MATERIALS AND PROCESSES

**170-502 Engineering Data Bases for Manufacturing** 3 Cr. Classification and coding, and formation of a Group Technology system. Modification of existing software for Computer Aided Process Planning to serve specific needs. Information storage and retrieval systems. Development of Computer Integrated Manufacturing data bases. Technical and human factors affecting workers. Prerequisite: 170-504 or 150-510 or consent of instructor F-W-S

**170-504 Computer Aided Manufacturing** 3 Cr. Justification for and application of computer assistance in manufacturing process; machine process control, inventory and materials handling, robotics and automated assembly, product design and part grouping in relation to total manufacturing operation. Special course fee. Prerequisites: 170-101, 170-202 and 354-141 or consent of instructor. F-W

**170-505 Robotics** 2 Cr. Capabilities of and justification for industrial robots; lab work with robots and simulators in processing, assembly and materials handling. Special course fee. Prerequisites: 170-101 or 170-202 and 170-504 and 354-141 or consent of instructor. F-W

**170-506 Maintenance of Processing Equipment** 3 Cr. Recondition, identify and correct common malfunctions of hand and power woodworking and metalworking equipment; manufacturers' performance specifications, cutting tool specifications and preventive maintenance schedules; selection of hand tools, power equipment, measuring instruments and safety devices. F-W

**170-508 Industrial Metrology** 3 Cr. Measurement of heat, moisture, speed, fluid flow, material properties, and angular and linear dimensions for parts production and process control. Theory and application with major emphasis on dimensional metrology. Introduction to statistical process control and nondestructive testing. Prerequisites: 170-102, junior standing or consent of instructor F-W-S

**170-510 Manufacturing Systems** 3 Cr. Dedicated, flexible, and standard manufacturing systems. Selection and application of standard production components and tooling to produce and evaluate a given product. Emphasis on integrated inspection, part transfer, production, and robot application. Special course fee. Prerequisite: 170-504.

**170-511 Production and Transfer Tooling** 3 Cr. Tooling for machining, locating, and transferring multiple parts for fixed and flexible manufacturing. Set-up and development of tooling for robots, Computer Numerical Control (CNC) machines and other production equipment. Transfer line tooling. Prerequisite: 170-504. F-W-S

**170-513 Manufacturing Processes: Wood Products** 3 Cr. Primary and secondary manufacturing processes including machining theory, computerized planning systems, Numerical Control (NC) machining applications, optically controlled laser engraving/cutting, product development and production systems. Prerequisite: 170-313. F-W-S

**170-515 Metallurgy** 3 Cr. Properties of crystalline solids, production of iron and steel, the carbon-iron equilibrium diagram, principles of heat treatment, properties of ferrous alloys. Production, properties, and theory of the most important non-ferrous metals and alloys. Prerequisite: 311-115. F-W

**170-537 Numerical Control in Manufacturing** 1-3 Cr. Investigation and justification of numerical control of machine tools; types of control units and systems, feedback systems, manuscript writing and manual programming, tape punching and machine set up, fixture design and tool setting; working knowledge of basic machining processes recommended. Special course fee. Prerequisite: 170-101 or 170-202. F-W

<p><b>170-540 Design and Simulation of Manufacturing Cells</b> 3 Cr. Applied manufacturing system design and evaluation. Group technology approach. Computer assisted coding and classification. Development of part families. Efficient design of manufacturing cells. Evaluation of manufacturing system designs using simulation and other techniques. Basic statistics and computer programming abilities desirable. Special course fee. Prerequisite: 170-504. F-W</p>	<p><b>170-713 Wood Properties I—Structure and Characteristics</b> 3 Cr. A study of the structure, characteristics and physical properties of wood and wood fiber as industrial materials. Testing of physical properties: Static bending, impact, compression, shear, tension and hardness; Moisture content, specific gravity; Dimensional change and micro-macro photography. F-W</p>	<p><b>190-631 Field Trips to Industry</b> 1-3 Cr. Opportunities are provided for industrial and vocational education majors as well as teachers to accumulate information about industries through local and distant on-site visits to industries. A third credit may be earned by showing evidence of application of data collected in courses being taught.</p>
<p><b>170-560 Aircraft Construction Workshop</b> 1-3 Cr. Thorough study of proved plans precedes completion of assignments in fabrication of parts, assembly, rigging, powering and finishing full-scale aircraft. Prerequisite: consent of instructor or degree in Industrial Education. S</p>	<p><b>170-798 Problems in Industry and Technology</b> 2-6 Cr. Substantive study and activity for specialists in the materials and processes field to include library work, field observation, laboratory work planned by the student and approved and supervised by a faculty consultant. Preparation of a technical report may be repeated for a maximum of six semester credits. Prerequisites: 190-739 and consent of department chairperson. F-W-S</p>	<p><b>190-637 Organization/Management of Technical Laboratories</b> 2 Cr. Experience in administration, project development and teaching problems associated with industrial education. Prerequisite: 190-205. S</p>
<p><b>170-565 Welding II</b> 2 Cr. Advanced work in arc and oxy-acetylene welding techniques; vertical, horizontal, overhead positions; destructive and non-destructive testing; MIG and TIG welding processes; oxy-acetylene machine and air carbon arc cutting. Prerequisite: 170-365. W</p>	<p><b>170-565 Welding II</b> 2 Cr. Advanced work in arc and oxy-acetylene welding techniques; vertical, horizontal, overhead positions; destructive and non-destructive testing; MIG and TIG welding processes; oxy-acetylene machine and air carbon arc cutting. Prerequisite: 170-365. W</p>	<p><b>190-638 Course Construction</b> 2 Cr. Directed experience in curriculum development and course of study construction for industrial education teachers; development of behavioral objectives and of instructional materials to help reach these objectives; development of course of study, instructional package and/or unit of instruction. W-S</p>
<p><b>170-570 Mechanical Systems</b> 2 Cr. Plumbing and electrical requirements for residential and commercial buildings. Prerequisite: 170-370. W</p>	<p><b>190-520 Seminar</b> 1-3 Cr. Current topics in industrial/technology education. Prerequisite: consent of instructor.</p>	<p><b>190-704 History/Philosophy Technology Education</b> 2 Cr. Evolution of modern industrial education through the people, movements, events and institutions that contributed to its formation. Developments and conditions in education and society also considered plus their relationship to the theory and practices of industrial education throughout the years. F-S</p>
<p><b>170-575 Building Construction Practicum</b> 2-4 Cr. Technical information, construction problems and actual development of light residential structure. Prerequisite: 170-270. S</p>	<p><b>190-530 Implementing Technology Education</b> 3 Cr. Converts the theory of Contemporary Technology Education programs into instructional materials, facilities, and strategy suited to the secondary and post-secondary school. F-W-S</p>	<p><b>190-708 Issues in Technology Education</b> 2 Cr. A seminar dealing with selected current issues in industrial arts. Developments of abilities to develop a position and defend it, to be critical without being offensive, and to be professional in an emotional atmosphere. Prerequisite: consent of instructor or teaching experience. W-S</p>
<p><b>170-580 Packaging Development</b> 3 Cr. Applications of packaging functions: developing a product's complete packaging system, from final production of product to consumer. Prerequisite: 170-480. F-W</p>	<p><b>190-540 Middle School Technology Education</b> 1 Cr. Reviews trends and activities in the technology education movement. To update instructors to teach middle school offerings. F-W-S</p>	<p><b>190-710 Curricular Innovations in Technology Education</b> 2 Cr. Study of current innovative programs and practices in the teaching of industrial arts. S</p>
<p><b>170-585 Packaging Seminar</b> 2 Cr. Current packaging problems or developments (subject based on students' interests and current issues). Prerequisite: junior or senior standing in Packaging. F-W</p>	<p><b>190-570 Elements of Instruction</b> 1-2 Cr. Techniques in the Madeline Hunter method of researched topics of instruction. Teaching to an objective, selecting objectives at the correct level of difficulty, monitor and adjust, and principles of learning including motivation, retention, transfer, set, active participation, reinforcement and closure. F-W-S</p>	<p><b>190-735 Problems in Industrial/Technology Education</b> 2 Cr. Identification, selection, and the completion of a problem in industrial education, culminating in a Plan B paper. Prerequisites: 421-740 and 190-739. F-W-S</p>
<p><b>170-595 Seminar</b> 1-2 Cr. (Title will reflect specific materials and processes content.) Designed to upgrade effectiveness of teachers or secondary school materials and processes content.</p>	<p><b>190-575 Workshop</b> 1-3 Cr. Current specialized topics in industrial education through experiential activities. Prerequisite: consent of instructor.</p>	<p><b>190-739 Introduction to Problems in Industry/Technology</b> 1 Cr. Study of selection criteria for advanced technical problems in industry and technology, development of techniques appropriate to attacking these problems, identification of industries and organizations relating to these problems and preparation of a detailed proposal to explore a particular problem. Students should enroll for this during their first graduate enrollment and should plan to take the appropriate 1xx-54x, problems in industry &amp; technology during their next enrollment. F-S</p>
<p><b>170-620 Research and Development</b> 2 Cr. Research and development procedures applied to specific industrial material and processing problems. Prerequisite: Sr. or Grad status F-W</p> <p><b>170-621 Research and Development Laboratory</b> 1 Cr. This lab is taken in conjunction with 170-620 to allow students in technical majors to fulfill the requirements of the major R&amp;D project. Prerequisite: Sr. or Grad Status To be taken concurrently with 170-620 F-W</p>	<p><b>190-606 Activities in Technology/Vocational Education</b> 2 Cr. A study and design of learning activities for industrial and vocational education. Learning activities will be developed on selected levels of the cognitive, psychomotor, and affective domains to carry out stated behavioral objectives. An evaluation of the appropriateness of learning activities as presented in contemporary curriculum projects.</p>	

**190-746 Seminars in Technology Education** 1-3 Cr. Identifying goals and outcomes for the local school; development of immediate and long-range curriculum plans; cooperating with local school administrative units in planning for improvement; use of the new Wisconsin curriculum guide for industrial education; initial preparation of individual courses of study for the local school program using behaviorally stated objectives. Prerequisite: Possession of a valid contract to teach and intent to teach in a particular local school unit, in which at least 75% of the local school industrial education teachers will also be participating in this seminar/workshop.

**190-770 Thesis—Industrial/Technology Education** 2-6 Cr. Independent research under direction of investigation adviser. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. Prerequisites: 421-740 and approval of major director. F-W-S

**190-890 Field Study in Industry and Technology** 6 Cr. A study which provides the graduate student with the opportunity to: (1) explore in-depth the body of knowledge associated with his substantive teaching field in industry and technology, (2) provide an educational experience for implementing this knowledge into the classroom situation, and (3) devise methods to determine if this methodology has brought about desired behavioral changes.

## TECHNOLOGY EDUCATION

**195-520 Technological Advances—Fast Forward I** 2 Cr. Outlines industry's rapid advancements in high technology as utilized in the world today. Reference is made to a variety of applications of this technology now and in the future. F-S

**195-521 Technological Advances—Fast Forward II** 2 Cr. Current applications of technology in today's society. Discusses how technological advances have affected educators through simulation, society through technological changes such as storing information, television communication and other new technological advances. W-S

**195-530 Understanding Technology** 3 Cr. Aspects of technology: definitions, present characteristics, history, forecasting, transfer, assessment, impact and systems. F-W-S

**195-532 Futures of Technology** 2 Cr. Concepts of future studies as applied to technology. Exploration of possible alternatives. Techniques and skills for the professional user and the citizen consumer. F

**195-540 Future of Work** 1-2 Cr. Future possibilities as to why people work, who will work, and in what conditions. Project probable work parameters from current trends. Relate past, present and future to students' individual work situations.

**195-733 Impacts of Technology** 2 Cr. A contemporary, historical and futuristic look at some of the economic, sociological, psychological and political implications of industry and technology. Students will identify and investigate several impacts of industry and/or technology to show depth of understanding and relationships between them. F-S

## MARKETING EDUCATION

**196-501 Marketing Education Project Method** 3 Cr. Designed to develop methods, techniques, questions, activities and resources that center around teaching distributive education via the project method or model store simulation. Prerequisite: 416-201. F

**196-555 Marketing Education Seminar** 2-3 Cr. Designed to update marketing and distributive education undergraduates and graduates (teacher-coordinators) on work experience, new curriculum, student organization competencies, coordination techniques, special needs, and Distributive Education related projects. Will be used to inservice high school teacher-coordinators and VTAE marketing teachers.

**196-701 Issues in Vocational Marketing Education** 2 Cr. An in-depth study of contemporary issues confronting vocational distributive education. Possible solutions or alternatives will be proposed.

**196-702 Improving Marketing Education Methods/Materials** 2 Cr. Identification and analysis of instructional needs; design of instructional alternatives; selection and development of instructional packages; and the evaluation and validation of the resulting products in terms of student learning.

## TRAINING AND HUMAN RESOURCE DEVELOPMENT

**198-550 Introduction to Industrial Training** 2 Cr. Philosophy, career opportunities, status of training programs, curriculum and program development, methods and evaluation, overview of facilities. F-W-S

**198-560 Training Systems in Business and Industry** 3 Cr. Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non-education majors. S

**198-589 Training Internship** 2-8 Cr. Opportunities for students to learn and practice training management and instructional techniques through activities and experiences in a training department. Objectives commensurate with student's background and field of training. Activities include designing and implementing training programs in student's major or minor field of study in either industry, business, military or government training programs. Prerequisites: 198-550 or 198-560, GPA 2.5 consent of specialization director F-W

## VOCATIONAL EDUCATION

**199-502 Principles of Vocational/Technical/Adult Education** 2 Cr. Philosophy, organization and administration of vocational, technical and adult education, nationwide, in Wisconsin and on the local level. F-W-S

**199-534 Task Analysis** 2 Cr. Analysis techniques utilized in curriculum development. Emphasis on task analyses and related procedures. Includes occupational and needs analysis, competency identification, objective writing and information mapping. Integrates task analysis with a total system for developing and revising vocational curriculum or job training programs. F-S

**199-537 Competency Based Education—Vocational/Industrial** 2 Cr. Competencies for VTAE programs and courses. Development of CBE performance indicators in all domains, a CBE management system, and basis for CBE evaluation.

**199-546 Seminar** 1-3 Cr. Current topics in vocational, technical and adult education with application for personnel in the field. Prerequisite: consent of instructor. F-W-S

**199-546A Seminar: Sex Equity in Vocational Education** 2 Cr. Workshop offered as part of the Sex Equity Project (1987-88) funded through DPI. This workshop is 4 days for 2 credits. Part 2 of the workshop is 4 days for 2 credits also. See 199-546B for part 2. Repeatable for credit. F-W

**199-546B Seminar: Sex Equity in Vocational Education** 2 Cr. Part 2 of the 8-day workshop for Sex Equity Project. Repeatable for credit. F-W

**199-559 Technology Impacts Occupational Programs** 4 Cr. Presentation of latest technology in communications, manufacturing, construction, and/or transportation which involve concepts from math, science, and computer science. Repeatable for credit. S

<p><b>199-560 Cooperative Occupational Education Programs</b> 2 Cr. Philosophy, organization, coordination and teaching techniques of cooperative education programs in the various vocational areas. Roles, responsibilities and duties of the cooperative teacher coordinator. Prerequisite: 199-502. F-W-S</p> <p><b>199-580 Computer Aided Instruction-Vocational/Technical/Adult Education</b> 2 Cr. Applications of the computer in managing vocational, technical and adult education classrooms and laboratories. Utilization of computers in course preparation, evaluation and methods of teaching. Use of existing software and the evaluation of it. Prerequisite: consent of instructor or computer literacy course.</p> <p><b>199-585 Computer Applications in Vocational Education</b> 2 Cr. Presentation of the importance and general applications of computers in the area of vocational education. Prerequisite: computer literate approval of instructor F-W-S</p> <p><b>199-605 Methods of Teaching Vocational Education</b> 2 Cr. Competency-based and individualized approach to methods of teaching vocational education. F</p> <p><b>199-638 Course Construction for Vocational Educators</b> 2 Cr. Competency-based and individualized approach to principles of course construction for vocational educators. F</p>	<p><b>199-640 Instructional Evaluation in Vocational Education</b> 2 Cr. Competency-based and individualized approach to instructional evaluation for vocational educators. F</p> <p><b>199-674 Adult Education</b> 2 Cr. Philosophy and history of adult education in the U.S. Techniques for teaching adults: psychological factors, methods, adult interests and characteristics. Special course fee.</p> <p><b>199-708 Issues in Vocational Technical and Adult Education</b> 2 Cr. An in-depth study of contemporary issues affecting vocational, technical and adult education. Possible solutions or alternatives will be proposed. S</p> <p><b>199-710 Coordination and Supervision of Vocational Education</b> 2 Cr. Principles of Coordination/Supervision in Vocational, Technical and Adult Education. The coordinator/supervisory positions are their functional relationship to the Vocational Education System. F-W-S</p> <p><b>199-736 Problems in Vocational Education</b> 2 Cr. Identification, selection, and completion of a problem in vocational education culminating in a Plan B paper. Prerequisite: 421-740. F-W-S</p> <p><b>199-746 Seminar</b> 1-3 Cr. Special topics on current developments in the field. Each seminar devoted to a specific development to be indicated with sub-title and description.</p>	<p><b>199-770 Thesis—Vocational Education</b> 2-6 Cr. Independent research under direction of investigation adviser. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. Prerequisites: 421-740 and approval of major director, Total credits must accumulate to 6.0 In-progress grading option appropriate until the 6.0 credits are completed. F-W-S</p> <p><b>199-780 Internship—Vocational Education</b> 4-8 Cr. A planned, supervised experience for M.S. or Ed.S. candidates. To be completed at selected locations capable of providing appropriate experiences. Prerequisite: approval of director of major and department chairperson. F-W</p> <p><b>199-784 Internship—Local Vocational Education Coordinator</b> 4-8 Cr. Supervised field practice in local vocational education coordination. To be completed at selected schools or CESA agencies capable of providing appropriate experiences. Prerequisite: approval of the director of the major. F-W</p> <p><b>199-792 Administration-Vocational/Technical/Adult Education</b> 2 Cr. Vocational-technical and adult school operation, legal status, policy making staff personnel, student personnel, programs, public relations, physical plant, business management. Prerequisite: 469-710. F-W</p>
--	--	--

## HOME ECONOMICS

<p><b>HUMAN DEVELOPMENT AND FAMILY LIVING</b></p> <p><b>212-507 Parent Education/Involvement</b> 2 Cr. Parent groups: training of leaders, survey of literature. Practicum with parent groups. Prerequisite: 212-264. F-W</p> <p><b>212-520 Theories of Early Childhood Education</b> 2 Cr. Early childhood education: evolution, theories and principles of current programs, and development of individual philosophy. Prerequisite: 212-408A. F-W</p> <p><b>212-524 Child Development II</b> 3 Cr. Empirical study of physical, intellectual, social and emotional development of children. Prerequisites: 212-124 and 212-264. F-W</p> <p><b>212-530 Adulthood and the Family</b> 3 Cr. Study of adults in the family context during the early and middle years. Prerequisites: 212-124, 212-324. W</p>	<p><b>212-535 Seminar On Self-Growth</b> 2 Cr. Theories of the self; exploration of aspects of self-development and actualization. Prerequisite: 212-350 or 212-524. F-W</p> <p><b>212-545 Exceptional Needs and Programming—Early Childhood</b> 3 Cr. Program development and implementation for preschool mentally handicapped children. Prerequisite: consent of department. F-W</p> <p><b>212-553 Dual Career Families</b> 1 Cr. The dual career marriage as a form of family life; benefits and problems encountered. F-W-S</p> <p><b>212-554 The Single-Parent Family</b> 1 Cr. Description, statistical trends and problems of single-parent families. F-W</p> <p><b>212-570 Singlehood</b> 1 Cr. Experiences of singles; singlehood as a phase in life cycle and as a life-style in contemporary society. Prerequisite: 212-250. F-W-S</p>	<p><b>212-585 Family Based Employee Assistance Programs</b> 3 Cr. Structures and functions of Employee Assistance Programs with employees and their families being the primary unit of analysis and service. Prerequisite: permission by instructor and junior standing F-W-S</p> <p><b>212-590 Family Research and Methodology</b> 3 Cr. Analysis of family theory, research methodology, and selected topics in family relations. Prerequisites: 212-250 and 212-350. W</p> <p><b>212-595 Infant/Toddler Programming</b> 1-2 Cr. Designing and conducting infant-toddler group education programs. Development, programming principles, effective learning strategies, program models, staff/parent roles, research, and administrative issues. Prerequisite: junior standing. Repeatable for credit. F-W-S</p>
---	--	---

**212-601 Child and Family Law** 3 Cr. Legal issues affecting children and families. Prerequisites: 212-250, 212-350 and junior standing. W

**212-605 Health Care Issues Facing Families** 2 Cr. A descriptive review of four health-care issues facing the American family with special emphasis on the impacts of advanced technology in health-care. Prerequisite: junior standing or consent of instructor. W

**212-607 Parent Counseling** 2 Cr. Approaches and techniques for working with parents; observation and experience in childrearing problems parents face. Prerequisites: 212-124 and 212-264. W

**212-610 Family Impact Seminar** 3 Cr. Content, methods and process of assessing impact of public policy on children and families. Prerequisites: 212-250, 212-350, 375-510 or consent of instructor. W

**212-615 Family Stress, Coping and Adaptation** 1 Cr. Impact of family development and stress on individual and family well-being. Prerequisite: 212-250. S

**212-624 Advanced Child Study** 3 Cr. A study of principles and review of literature pertaining to children. Prerequisites: 212-124 and 212-264.

**212-626 Special Topics in the Study of Family Life** 1-3 Cr. Family life programs and literature; individual study of problems of personal or professional interest. Prerequisite: 212-350. Repeatable for credit. F-W-S

**212-626A Special Topics in the Study of Family Life** 1-3 Cr. Family life programs and literature; individual study of problems of personal or professional interest. Prerequisite: 212-350. Repeatable for credit. F-W-S

**212-637 Seminar in Child Development** 2 Cr. Special problems and aspects in child development; preference given to students' interests. Prerequisite: consent of instructor.

**212-638 Child Abuse and Neglect** 2 Cr. How child abuse and neglect affects the abused/neglected child and the abusing/neglecting family; ways of coping with family and social problems. Prerequisites: 212-124, 212-250 or consent of instructor. F

**212-641 Understanding Children's Play** 2 Cr. Definitions, theories, and types of play; the role of adults in fostering play, and the contributions of play to other areas of children's development. Prerequisites: 212-124, 212-294 or consent of instructor. W-S

**212-650 Introduction to Marriage and Family Therapy** 3 Cr. Conceptual frameworks and approaches to marriage and family counseling. Prerequisite: consent of instructor. F

**212-651 Marriage and Family Therapy Seminar** 3 Cr. Application of basic counseling techniques in premarital, marital, family and couples-group counseling; supervised by professional marriage and family counselor. Prerequisite: 212-650 or consent of instructor. W

**212-653 Relationship Communication Training** 2 Cr. Communication theories and skills applied to marital, family and other intimate relationships. Application of communication skills to personal relationships and professional work. (Preferably, but not necessarily, have your premarital or marital partner with you). Prerequisite: consent of instructor. F

**212-654 The Workplace and the Family** 2 Cr. Linkages between families and workplace; corresponding consequences for individual family well-being and the workplace. Prerequisites: 212-124 and 212-250 or consent of instructor. W

**212-660 Current Topics in Sexuality** 1 Cr. Overview and evaluation of current research concerning human sexual behavior and attitudes. Prerequisite: 212-250. F-W-S

**212-664 Special Topics in Early Childhood Curriculum** 1-3 Cr. Philosophy and methodology of early childhood education: problems confronting teachers. Prerequisite: 212-303. Repeatable for credit. F-S

**212-664A Special Topics in Early Childhood Curriculum** 1-3 Cr. Philosophy and methodology of early childhood education: problems confronting teachers. Repeatable for credit. F-W-S

**212-665 Administration—Early Childhood Education Programs** 3 Cr. A study of program organization, program design, staffing, licensing, certification, equipment and facilities for operating early childhood education programs. Field trips required. Prerequisite: 212-408B. F

**212-666 Family Planning** 1 Cr. Factors influencing family planning; knowledge and services for effective family planning practice. Prerequisite: one undergraduate course in family relations.

**212-680 The Aging Person** 2 Cr. Characteristics and needs of aged members of society; intergenerational relationships of family members. F-W

**212-685 Seminar—The Culturally Distinct Child and Family** 3 Cr. Study of ethnic, racial, cultural and economic influences on the child and family in the United States. Emphasis on improving human interactions. Prerequisite: 212-324 or 212-350. F-W

**212-690 Death Education and Counseling in Families** 2 Cr. Death and dying theory; research, practice and application in education and individual and family counseling. Prerequisite: 212-351 or consent of instructor. .

**212-693 Practicum in Child Development and Family Life** 4-8 Cr. Practicum experiences in child development, family relationships and human resource management within a community agency, business or organization. Prerequisite: consent of instructor. F-W-S

**212-703 Seminar in Child Development** 2 Cr. Advanced seminar in study of all aspects of child development.

**212-707 Issues and Problems in Parent Education** 2 Cr. A study of the issues and problems of parent groups and the training of parent-group leaders. Prerequisite: 212-407 or consent of instructor.

**212-715 Theories of Family Processes** 2 Cr. Advanced analysis of family interaction theory. Emphasis is on normal family processes as they apply to the practice of marital and family intervention. Prerequisite: 212-590 or permission by instructor F-W-S

**212-728 Family Life Issues** 2 Cr. A study of current issues and problems in marriage and the family. An investigation of research, literature and consideration of theoretical interpretations in today's world. An exploration of how familial experiences affect behavioral patterns and attitudes of children, adults and self.

**212-742 Human Development** 2 Cr. Human development theory, research, changing trends, problems and interpretations will be explored. Emphasis on application of scientific knowledge to practical relationships with children in the family, school, and community and implications of child development concepts towards understanding of self and others.

**212-750 Systems of Marital and Family Therapy** 3 Cr. Survey of conceptual frameworks and approaches to marital and family therapy from a systems point of view. Prerequisite: 212-650 or consent of instructor. F

**212-751 Seminar in Marriage and Family Therapy** 3 Cr. Advanced and in-depth study of the issues, skills and methods in premarital intervention and marriage and family therapy. Prerequisite: 212-750 or consent of instructor. W

**212-755 Professional Issues in Marriage and Family Therapy** 3 Cr. Exploration of the issues in the development of professional skills, attitudes and identity in the area of marriage and family therapy. Prerequisites: 212-750, 212-751 or consent of instructor.

<p><b>212-760 Sex Therapy Seminar</b> 2 Cr. This course is offered to graduate students, who have already taken basic course in human sexuality and who plan to work in the helping professions. Its main goal is to provide participants with the basic skills, knowledge, and attitudes that will enable them to help clients solve problems related to sexuality. Prerequisite: 212-660 or course deemed equivalent by instructor. W</p>	<p><b>214-550 Textile Evaluation</b> 3 Cr. Problems in fiber identification, fabric performance, and care; chemical and microscopic testing procedures; methods for gathering and interpreting data; individual problems. Prerequisite: 214-140. F-W</p>	<p><b>214-625 Mass Merchandising</b> 2 Cr. Comparative history, planning, design, and techniques of merchandising and operations. Special course fee. Prerequisites: 214-227, 214-339. F-W</p>
<p><b>212-766 Problems in Early Childhood Education</b> 3 Cr. Overview of issues in early childhood education with emphasis on problems confronting teachers in establishing early childhood programs in communities and schools.</p>	<p><b>214-555 Special Topics in Textiles and Clothing</b> 1-2 Cr. Special topics in clothing and textiles. Repeatable for different topics. Prerequisite: junior standing. Repeatable for credit.</p>	<p><b>214-639 National Study Tour to Fashion Industry</b> 1 Cr. Five-day visit to New York or alternate city: study hours, discussions and lectures by leaders in American fashion market. Prerequisites: consent of instructor and junior, senior or graduate standing. W</p>
<p><b>212-793 Marriage and Family Therapy Practicum I</b> 4 Cr. Preparation for professional marriage and family counseling services through seminar discussions, observation, and supervised counseling experience. Prerequisite: personal screening and approval by instructor or admission without deficiency to the proposed program in Marriage and Family Therapy; concurrent registration in 413-793; commitment to second semester sequel—enrollment in 413-794 and 212-794. F</p>	<p><b>214-568 Engineered Tailoring</b> 3 Cr. Industrial production methods applied to construction of tailored garments. Prerequisite: 214-166. F</p>	<p><b>214-680 Draping</b> 3 Cr. Application of draping principles in design and construction of garments; emphasis on creativity. Prerequisite: 214-266. F-W</p>
<p><b>212-794 Marriage and Family Therapy Practicum II</b> 4 Cr. Sequel to 212-793. Continuing preparation for professional marriage and family counseling services through seminar discussions, observation, and supervised counseling. Prerequisite: successful completion of 212-793 and 413-793; concurrent registration in 413-794.</p>	<p><b>214-581 Functional Clothing Design</b> 3 Cr. Application of physical science theory to problems in clothing design; impact protection and thermal balance of the human body, structural properties of materials, and apparel forms. Prerequisites: 214-368, 214-550, 214-580. F</p>	<p><b>214-685 Apparel Design Studio</b> 2 Cr. Analysis of designer responsibilities. Creation and development of original designs using flat pattern and/or draping techniques. Preparation of a professional portfolio. Prerequisites: 214-581, 214-680, 304-534. W</p>
<p><b>214-590 Practicum in Textile Design</b> 3 Cr. Use of textile design techniques as means of artistic expression: stitchery, weaving, knotting, applique, and hooking; emphasis on good design and creativity. Prerequisites: 304-101, 304-101 or consent of instructor F-W</p>	<p><b>214-591 Natural Dyeing and Hand Spinning</b> 2 Cr. Gather dyes from local environment, select mordants, dye fibers; spin dyed fibers on spinning wheels/drop spindles; historic dimensions. Special course fee. S</p>	<p><b>214-690 Advanced Fiber Design</b> 1-3 Cr. Creative exploration of textile design: stitchery and applique. Prerequisite: 214-590. W-SO</p>
<p><b>214-593 Design Problems in Textile Printing</b> 3 Cr. Advanced textile printing practicum with specific concern for design problems. Special course fee. Prerequisite: 214-492 or consent of instructor.</p>	<p><b>214-592 Structural Design and Weaving</b> 2 Cr. Experiences in loom weaving including two and four harness techniques. Special course fee. Prerequisite: 304-101 or consent of instructor. F-W-S</p>	<p><b>214-693 Structural Design and Weaving</b> 2 Cr. Experiences in loom weaving including two and four harness techniques. Special course fee. Prerequisite: 304-101 or consent of instructor. F-W-S</p>
<p><b>214-594 Knit Design and Technology</b> 2 Cr. Basic stitch formation and patterning of warp and filling knits. Influences on aesthetics and performance of knit fabrics. Production of knitted garments on a flatbed knitting machine. Prerequisite: 214-140. F-W-S</p>	<p><b>214-694 Advanced Weaving Studio</b> 2 Cr. Complex hand-weaving techniques: block theory, pile constructions, leno techniques and double cloth. Individual work encouraged. Special course fee. Prerequisite: 214-693, or equivalent. F-W-S</p>	<p><b>214-695 Historic and Contemporary Fabrics</b> 3 Cr. Analysis of designs and techniques of decorating historic and contemporary fabrics; contribution of decorative fabrics to enrichment of human experience. W</p>
<p><b>214-595 Men's and Boys' Merchandising</b> 1 Cr. Specialized techniques of merchandising men's wear and boys' wear: stock planning, market trends and controls. Prerequisite: 214-327. F-W</p>	<p><b>214-696 Seminar in Fashion Merchandising</b> 2 Cr. Investigation, evaluation, and interpretation of current literature and research in Fashion Merchandising. Prerequisite: graduate standing or consent of the instructor. F-W</p>	<p><b>214-730 Seminar in Textiles</b> 2 Cr. Investigations and new developments in the textile field. Opportunity for individual problems. Prerequisite: 214-650 or consent of instructor.</p>
<p><b>214-596 Store Management</b> 3 Cr. Develop management skills for retail stores of varying size. Prerequisites: 214-430 or consent of instructor, senior or graduate standing. F-W</p>	<p><b>214-697 Special Topics in Fashion Merchandising</b> 1-2 Cr. Special topics in fashion merchandising. Repeatable for different topics. Prerequisites: junior standing, completion of basic courses within the area or consent of instructor. Repeatable for credit.</p>	<p><b>214-740 Seminar in Textiles</b> 2 Cr. Investigations and new developments in the textile field. Opportunity for individual problems. Prerequisite: 214-650 or consent of instructor.</p>
<p><b>214-597 Special Topics in Fashion Merchandising</b> 1-2 Cr. Special topics in fashion merchandising. Repeatable for different topics. Prerequisites: junior standing, completion of basic courses within the area or consent of instructor. Repeatable for credit.</p>	<p><b>214-698 History of Costume—Ancient to European</b> 3 Cr. Development of costume throughout the ages: fashion as it reflects past cultures and influences present day costume. F</p>	<p><b>214-755 Topics in Clothing and Textiles</b> 1-2 Cr. In depth investigation of a specific area of clothing or textiles. A current topic that lends itself to a lecture discussion method of instruction will be selected for study. Prerequisite: consent of instructor.</p>

**214-760 Seminar in Clothing** 2 Cr. Review, evaluation and interpretation of current research in clothing and in its interrelationships with other disciplines. Prerequisite: consent of instructor or teaching experience.

**214-765 Workshop in Clothing and Textiles** 1-2 Cr. Opportunity for cooperative work in some aspect of clothing study. Prerequisite: teaching experience.

**214-768 Problems in Clothing and Textiles and Designs** 2 Cr. Identification, selection and completion of a problem in clothing and textiles culminating in a Plan B paper. Prerequisite: 421-740. F-W-S

**214-769 Design Option Thesis** 2-6 Cr. Independent research under direction of investigation advisor. Culminating in a design show. A descriptive paper written according to thesis standards, including slides, will be presented. Prerequisites: 421-740 and approval of major director, Total credits must accumulate to 6.0 In-progress grading option appropriate until the 6.0 credits are earned. F-W-S

**214-770 Thesis—Clothing and Textiles** 2-6 Cr. Independent research under direction of investigation adviser. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Prerequisites: 421-740, approval of major director, Total credits must accumulate to 6.0 In-progress grading option appropriate until the 6.0 credits are earned. F-W-S

**214-780 Advanced Draping** 1 Cr. Manipulation of various fabrics on a dress form to develop garments from given and self designed sketches that reflect advanced techniques. Construct garments from patterns. Prerequisite: 214-680.

**214-781 Advanced Flat Pattern** 2 Cr. Draft and develop paper patterns for garments by varying a master pattern from given and self designed sketches that reflect advanced techniques. Construct garments from pattern. Prerequisites: 214-280, consent of instructor.

**214-790 Seminar in Textile Art** 2 Cr. Textile art from historic and contemporary perspectives. Issues and trends in textile design. Prerequisite: consent of instructor or minimum of six credits in textile art area.

**214-792 Advanced Practicum in Textile Printing** 3 Cr. Independent exploration of selected textile printing techniques emphasizing design, process, production and costing. Special course fee. Prerequisite: 214-592.

## **FOOD AND NUTRITION**

**229-505 Nutrition for the Aged** 2 Cr. Nutrient requirements and food consumption patterns of the elderly; food services for aging Americans. Prerequisite: 229-212 or consent of instructor. W

**229-525 Special Topics in Food and Nutrition** 1-2 Cr. Study of special topics in Food and Nutrition. Prerequisites: 229-212, consent of instructor and for 500 level, completion of basic courses in the area. Repeatable for credit. F

**229-542 Advanced Foods** 2 Cr. Comparative studies of food selection and preparation; appraisal of foods. Prerequisite: 229-124 or 229-240. F-W

**229-550 Fast Food Operations** 3 Cr. Organization and function of fast foodservice operations. Work methods procedures, staffing, food quality and quantity control, space and equipment maintenance, safety, sanitation, merchandising and career options will be covered. Not available to students for credit who have taken 245-550. Prerequisites: 229-124 or 229-240, 229-308 and 245-311. F-W

**229-604 Foodservice Practicum for Child Care Centers** 1 Cr. Application of food management principles for directors of child care centers: personnel management, menu planning; recipe selection, standardization and adjustment; food purchasing and storage, food production and service, equipment use, sanitation and safety, and nutrition education in day-care setting. **GRADUATE OBJECTIVE:** Analyze food and nutrition services of a child care operation and develop a plan of action for a stated function. F-W

**229-606 Nutrition Education** 3 Cr. Nutrition education as planned behavioral change: problems and solutions in instructing various populations; identification, development and evaluation of nutrition resources. Prerequisites: 229-212, 242-201, 229-308, 229-410 or consumer course if required in program. consent of instructor, and junior standing F-W

**229-612 Clinical Experience—Community Nutrition Programs** 1 Cr. Practical experience with community nutrition program; basic nutrition program or foodservice operation and nutrition education activity. Recommended: 229-618 and 229-630. Prerequisites: 229-308 or 229-318, 229-410, 229-606 and 229-680. F-W

**229-614 Catering** 3 Cr. Theory and application of operational and managerial principles for on/off-premise catering for special events. (Cannot be taken for credit by students who have previously taken 245-614) Prerequisites: 229-124, 229-260 or By instructor's consent. Junior standing or above. F-W

**229-618 Diet Therapy** 4 Cr. Principles and methods for use of diet as therapy in certain pathological conditions. Prerequisites: 229-308, 229-410. F-W

**229-620 Food Styling** 1-3 Cr. Food as media for artistic expression; effective use of color, form and texture. Prerequisites: 229-124 or 229-249 and senior or graduate standing or consent of instructor. Repeatable for credit. F-W-S

**229-630 Food Behavior** 3 Cr. Food behavior: how it controls eating problems, resultant nutritional status; formation of food patterns to meet physical, physiological, psychological or social needs; modification of food behavior. Recommended: courses in social and behavioral sciences. Prerequisite: senior or graduate standing and 229-212 (preferably within past two years). F

**229-633 Maternal and Child Nutrition** 3 Cr. Application of principles to maternal, infant, child and adolescent nutrition. Prerequisites: 229-212 and 308-132. F-W

**229-638 Experimental Foods** 3 Cr. Experimentation with selected food materials, techniques and equipment; directed study in individually chosen area. Prerequisites: 229-124 or 229-240 and 311-201. F-W

**229-650 Food Processing** 3 Cr. Industrial methods used to prepare and preserve food. Prerequisites: 229-124 or 229-240, 355-120. W

**229-661 Social and Cultural Aspects of Food** 2 Cr. Social, economic, and cultural influence on human food patterns. Prerequisites: 229-124 or 229-240 and senior or graduate standing or consent of instructor. F-W-SO

**229-680 Community Nutrition** 3 Cr. Current status and legislative regulation of community nutrition programs; assessment of community needs and resources; program planning, funding and evaluation; role of community nutritionist/home economist as program planner. Recommended: courses in social and behavioral sciences. Prerequisite: senior or graduate standing and 229-212 or equivalent (preferably within last two years). W

**229-701 Trends in Nutrition** 1-2 Cr. Practical application of recent developments in the field of nutrition. Prerequisite: 229-212. Repeatable for credit.

**229-702 Minerals and Vitamins** 3 Cr. Absorption and intermediary metabolism of minerals and vitamins. Prerequisite: 229-410.

**229-705 Geriatric Nutrition** 2 Cr. Theory and relationships of nutrition, longevity, and aging. Food and nutrition legislation for the elderly—theory and implementation. Nutritional implications of acute and chronic disease states common among the elderly.

<p><b>229-706 Instructional Techniques in Food Systems</b> 2 Cr. Training techniques for teaching courses related to commercial food and food service. Prerequisite: graduate standing.</p> <p><b>229-708 Food Seminar</b> 2 Cr. Discussion and interpretation of recent developments in food preparation, food processing and food products. Choice of problems based on the needs and interests of the students. Repeatable for credit.</p> <p><b>229-710 Clinical Nutrition</b> 3 Cr. Innovative approaches in nutrition therapy. Clinical experience offered in area hospitals. Prerequisite: 229-618, or equivalent.</p> <p><b>229-711 Nutrition Seminar</b> 2 Cr. Discussion and interpretation of recent developments in fundamental and applied nutrition. Choice of problems based on needs and interests of students. Repeatable for credit.</p> <p><b>229-712 Practicum in Community Nutrition Programs</b> 1-2 Cr. Advanced experience in community nutrition programs. Individual project in nutrition counseling, identification, delivery and evaluation of nutrition and appropriate food services. Prerequisites: 229-606, 229-618, 229-680, 229-630, consent of instructor. Repeatable for credit.</p> <p><b>229-715 Menu Analysis and Planning</b> 3 Cr. Principles of planning and designing menus for production and sales in commercial and institutional food services. Special emphasis is given to computerization of the menu planning process. Prerequisite: 354-141 or 354-741.</p> <p><b>229-720 Workshop in Foods</b> 1 Cr. Individual and group investigations and solutions of problems in foods/food service. Prerequisite: graduate standing. Repeatable for credit.</p> <p><b>229-721 Workshop in Nutrition</b> 1 Cr. Individual and group investigations and solutions of problems in nutrition science/nutrition education. Prerequisite: graduate standing. Repeatable for credit.</p> <p><b>229-725 History of Food</b> 3 Cr. Survey of the geographical, political, social, religious, and economic forces affecting people's diet, food selection, traditions, rituals, habits and service throughout history. Prerequisite: necessary background in history and anthropology as judged by the instructor.</p> <p><b>229-729 Proteins</b> 3 Cr. Digestion, absorption, and intermediary metabolism of protein. Prerequisite: 229-410.</p> <p><b>229-736 Carbohydrates and Lipids</b> 3 Cr. Digestion, absorption, and intermediary metabolism of carbohydrates and lipids. Prerequisite: 229-410.</p>	<p><b>229-740 Food Preservation Technology</b> 3 Cr. Application and evaluation of the technology of food preservation to selected areas in food science. Prerequisites: 311-511 and 308-206.</p> <p><b>229-742 Sensory Evaluation of Food</b> 2 Cr. Selection, identification and measurement of food evaluation tools using consumer and laboratory sensory panels.</p> <p><b>229-746 Food Innovations</b> 2-3 Cr. Effects of food industry innovations on preparation and service of foods.</p> <p><b>229-747 Problems in Food Science and Nutrition</b> 2 Cr. Identification, selection and completion of a problem in food science and nutrition, culminating in a Plan B paper and oral presentation of the paper. Prerequisite: 421-740. F-W-S</p> <p><b>229-756 Advanced Experimental Food</b> 3-4 Cr. Principles of research methods applied to directed investigations in food preparation. Prerequisite: 229-638. F-W</p> <p><b>229-770 Thesis—Food Science and Nutrition</b> 1-6 Cr. Independent research under direction of investigation advisor. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, preparation of the final paper according to thesis standards and oral presentation of the research. Student may enroll for variable semester hours of credit in various terms with a final total of 6. Prerequisites: 421-740, approval of major director, Total credits must accumulate to 6.0 in-progress grading option appropriate until the 6.0 credits are earned. F-W-S</p>	<p><b>242-544 Future Homemakers of America Workshop</b> 1 Cr. Integration of Future Homemakers of America and the Home Economics Related Occupations student organizations into the home economics classrooms and programs. Prerequisite: junior standing.</p> <p><b>242-620 Vocational Programs in Home Economics</b> 2 Cr. Techniques, materials and curriculum for home economics wage-earning programs in secondary and post-secondary schools; preliminary procedures for program development. Prerequisites: 199-502 and 242-301. F-W</p> <p><b>242-630 Concepts of Extension Education</b> 2 Cr. Concepts and processes in conducting educational programs for adults and youth: philosophy, objectives and organization of extension education; leadership, development, program development, teaching methods and evaluation. Prerequisite: senior or graduate standing in Home Economics or Home Economics Education. W</p> <p><b>242-651 Family Life Education Programs</b> 2 Cr. Development of family life education programs including methods, materials and techniques for teaching family relationships and child development at the secondary level. Prerequisites: senior standing, consent of instructor. F-W</p> <p><b>242-708 Curriculum Studies in Home Economics</b> 2 Cr. Principles of curriculum construction. Review of recent literature on curriculum development. Evaluation of curriculum practice and techniques. F-SO</p> <p><b>242-710 Applied Evaluation in Home Economics</b> 2 Cr. Theory and application of principles in planning evaluation techniques in home economics to assess behavioral changes in the cognitive, affective, and psychomotor domains. Prerequisite: graduate standing. W-SE</p> <p><b>242-720 Special Topics in Home Economics Education</b> 1-2 Cr. Consideration of problems in contemporary living that are affecting home economics education and their influence on the teaching of home-making. Repeatable for credit. S</p> <p><b>242-720A Special Topics in Home Economics Education</b> 1-2 Cr. Consideration of problems in contemporary living that are affecting home economics education and their influence on the teaching of home-making. Repeatable for credit. F-W-S</p> <p><b>242-744 Seminar in Home Economics Education</b> 1-2 Cr. Issues in home economics education. Repeatable for credit. F-W-S</p>
--	---	--

**242-770 Thesis—Home Economics Education** 2-6 Cr. Independent research under direction of investigation advisor. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. Prerequisites: 421-740, approval of major director, Total credits must accumulate to 6.0 In-progress grading option appropriate until the 6.0 credits are earned. F-W-S

**242-775 Problems in Home Economics Education** 2 Cr. Identification, selection and completion of a problem in home economics education, culminating in a Plan B paper. Prerequisite: 421-740. F-W-S

## HABITATIONAL RESOURCES

**245-501 Foodservice Administration** 3 Cr. Organization and administration of institutional foodservice systems, personnel selection and training, cost control and problems of supervision. Prerequisite: 229-318. F-W

**245-513 Quantity Food Production and Service** 3 Cr. Application of food preparation principles to large-quantity production; menu and formula standardization, food production costs and menu planning for institutions. Prerequisite: 245-312 or 245-501. F-W-S

**245-515 Lodging Administration** 3 Cr. Analysis of theories, principles and techniques of lodging management; problems and issues encountered by management in providing quality service within cost-efficient organization. Prerequisites: 245-201 and 245-202. F-S

**245-521 Foodservice Equipment** 2 Cr. Factors affecting design, selection, physical facilities and utilities involved in food-service equipment. Prerequisite: 130-110. F-W-S

**245-550 Fast Food Operations** 3 Cr. Organization and function of fast foodservice operations. Work methods procedures, staffing, food quality and quantity control, space and maintenance, safety, sanitation, merchandising and career options will be covered. Not available to students for credit who have taken 229-550. F-W

**245-565 Consumer Aspects of Life Insurance** 1 Cr. Comparative methods of determining life insurance needs; evaluation of adequacy of policy and program features; relevance to family financial planning. Prerequisite: 245-275 or consent of instructor. F

**245-566 Consumer Aspects of Health Insurance** 1 Cr. Types and sources of health insurance available to U.S. consumer; analysis of American health-care crisis and proposed solutions. Prerequisite: 245-275 or consent of instructor. F

**245-600 Integrated Management Systems—Hospitality** 2 Cr. Exploration, comparison and synthesis of practices, concepts and theories in hospitality management systems. Prerequisite: 245-205. F-W-S

**245-614 Catering** 3 Cr. Theory and application of operational and managerial principles for on/off-premise catering for special events. (Cannot be taken for credit by students who have previously taken 229-614. Prerequisites: 229-124, 229-260 or by instructor's consent Junior standing or above F-W

**245-625 Hospitality Industry Law and Liability** 3 Cr. Laws applicable to ownership and operation of inns, hotels, motels, restaurants and other places of public hospitality. Prerequisite: 160-318. F-W

**245-626 Hospitality Industry—Employee and Labor Relations** 2 Cr. Investigation of employee and labor relations in the hospitality industry: history, legality and techniques of dealing with unionization. F-W

**245-640 Sociocultural System of Tourism** 3 Cr. Various psychosocial dimensions of tourism: motivation, development, community and conflict as related to consumer-tourists and residents. W

**245-644 Resort Planning and Operation** 3 Cr. Planning and operation of individual destination resorts. Analysis of resort concept, history, master planning, environmental impact, facility design, maintenance and operational management. Prerequisite: 245-340 or Permission of instructor W

**245-645 Geography of Tourism** 3 Cr. Locational analysis of land use and human migration in national and international tourism. Prerequisites: 245-240, 245-340 or consent of instructor. F-W

**245-650 Human Habitat** 3 Cr. Influence of different socio-economic factors on effective use of family housing resources; adjustment and flexibility of safety, comfort, convenience, physical and financial maintenance based on family cycle. Field trips and individual projects. F

**245-655 Major Kitchen Appliances** 3 Cr. Detailed structure and performance analysis of ranges, refrigerators, freezers, disposers, dishwashers, microwave ovens and selected kitchen appliances. Prerequisite: 245-355, or equivalent. S

**245-656 Microwave Oven** 2 Cr. Application of microwave heating principles to food preparation and service. F-W-S

**245-657 Foodservice Microwave Oven** 2 Cr. Microwave heating principles using commercial microwave ovens in foodservice. Prerequisite: 229-124 or 229-240. F-W-S

**245-660 Consumer Credit** 1 Cr. Types and sources of credit, determination of credit costs, considerations before using, and regulatory laws. Prerequisite: 245-360 or consent of instructor. S

**245-662 Consumer Protection** 1 Cr. Major federal and state consumer protection agencies; major business, industry and private organizations set up to aid consumers; avenues of individual and collective consumer redress. Prerequisite: 245-360 or consent of instructor. W

**245-663 Consumer Law** 1 Cr. Major federal and state consumer protection laws, difficulties in obtaining passage and implementation, and pending federal and state consumer protection legislation. Prerequisite: 245-360 or consent of instructor. F-W

**245-670 Hospitality—Financial Analysis/Budget/Forecasting** 3 Cr. Application of accounting and financial analysis techniques to managerial decision-making in hospitality industry. Prerequisites: 160-206, 245-370 and 245-371. F-W-S

**245-676 Family Finance** 2 Cr. Financial decisions and judgments that average individuals and families must make during a lifetime; income and occupation, family expenditures, credit, savings, taxes and estate plans. Prerequisite: 320-201. F-W

**245-678 Financial Planning for Retirement** 2 Cr. Financial considerations made in preparing for and during retirement. Emphasis on the values, goals, income, expenditures, credit, savings, investments, taxes and estate plans. Prerequisite: Senior standing F-W-S

**245-681 Special Problems in Habitational Resources** 2 Cr. Current problems in habitational resources; seminar topic chosen by instructor, individual or group. Repeatable for credit. F-W-S

**245-682 Hospitality and the Handicapped Traveler** 1 Cr. Provide increased sensitivity to needs of handicapped traveler: problems and possible solutions for hospitality organizations. F-W

**245-684 Seminar in Property Management** 2 Cr. Culminating professional course for the Property Management Minor Program. Preparation of a property management plan for a specific property. Discussion of current trends and industry problems. Prerequisite: Reserved for final semester for students in Property Management Minor. W

<p><b>245-700 Management Concepts in Food Administration</b> 1 Cr. Management concepts as they apply to institutional food service operations. W-S</p>	<p><b>245-703 Seminar in Analysis of Foodservice Management</b> 3 Cr. In-depth study of the management systems used in the hotels, restaurants and institutions. W</p>	<p><b>245-789 Thesis in Hospitality and Tourism</b> 1-6 Cr. Independent research under direction of investigation advisor. Selection of problems, development of outline, review of literature, compilation of bibliography, research methodology, conducting of research, interpretation of findings, and preparation of the final draft according to thesis standards. Student may enroll for variable credits in various semesters with a final total of six. Prerequisites: 421-740 and approval of major director. Total credits must accumulate to 6.0. In-progress grading option appropriate until the 6.0 credits are earned. F-W-S</p>
<p><b>245-701 Food Service Administration Management—Implementation</b> 1 Cr. The implementation of selected management concepts which will make food service administrators more effective in their roles as food service managers. F</p>	<p><b>245-710 Issues in Hospitality and Tourism</b> 2 Cr. Significant topics, trends and issues in hospitality and tourism are investigated, developed and presented. Prerequisite: admission in hospitality and tourism. F</p>	
<p><b>245-702 Operational Controls in Food Service Management</b> 1 Cr. A management plan designed to incorporate all necessary controls the institution needs to minimize incurred expenses and maximize work performance associated with production. S</p>	<p><b>245-780 Seminar in Hospitality and Tourism</b> 1 Cr. Discussion and interpretation of recent research in hospitality and tourism. Choice of problems based upon the needs and interests of the students. Prerequisite: graduate standing. F-W</p>	

## LIBERAL STUDIES

### INTERDEPARTMENTAL

**300-510 Introduction to Women's Studies** 2 Cr. An examination of the experience of women in American society, their past and present contributions and roles, and perspectives on the future. F-W

**300-511 Topic in Women's Studies** 1-3 Cr. Exploring, from interdisciplinary perspective, new information and ideas in a selected area of significance to women's studies. Prerequisite: 300-510 or consent of instructor.

**300-575 The Ascent of Man** 2 Cr. Exploring the nature and intellectual, philosophical and technical growth of humankind using 'The Ascent of Man' TV series as basis for thought and discussion. Prerequisite: junior standing or consent of instructor. W

### ANTHROPOLOGY

**303-610 The Anthropological Study of Family Systems** 3 Cr. Anthropological, cross-cultural view of family systems, with attention to their organization, functions, dynamics and articulation with other institutions. Prerequisite: 303-220 or consent of instructor. W

### ART

**304-500 Drawing II** 1-3 Cr. Continuation of 304-100; exploitation of media for creative and expressive ends. Initial enrollment must be for 3 credits. Prerequisite: 304-100. Repeatable for credit. F-W

**304-501 Life Drawing** 1-3 Cr. Drawing the human figure in action or at rest; problems in figure composition. Prerequisites: 304-100 and 304-500. F-W

**304-502 Life Drawing II** 1-3 Cr. Advanced problems in figure composition and graphic interpretation of the figure. Initial enrollment must be for 3 credits. Prerequisite: 304-501. Repeatable for credit. F-W

**304-503 Design** 3 Cr. Application of basic design principles using various media for development of visual sensitivity to three-dimensional form. Prerequisite: 304-101. F-W

**304-509 Painting I** 3 Cr. Introduction to character and use of various painting media; work from still life and life with reference to problems of two-dimensional color composition. Prerequisite: 304-500. F-W-S

**304-510 Painting II** 1-3 Cr. Advanced work in oil painting; exploitation of medium for creative and expressive ends. Initial enrollment must be for 3 credits. Prerequisite: 304-509. Repeatable for credit. F-W-S

**304-511 Sculpture I** 3 Cr. Introduction to sculptural concepts. Prerequisite: 304-500, or equivalent. F-W

**304-512 Sculpture II** 1-3 Cr. Advanced problems in sculpture; exploitation of media for creative and expressive ends. Initial enrollment must be for 3 credits. Prerequisite: 304-511. Repeatable for credit. F-W

**304-513 Ceramics I** 3 Cr. Basic design and techniques of ceramic production for artist/potter; forming, firing and surface treatment. F-W-S

**304-514 Ceramics II** 1-3 Cr. Use of clay, glazes and kiln for design and production of high-fired ceramics. Initial enrollment must be for 3 credits. Prerequisite: 304-513. Repeatable for credit. F-W-S

**304-515 Art Metal I** 3 Cr. Design and construction of jewelry and objects in precious and non-precious materials with relationship to human interaction. Prerequisite: 304-101, or equivalent. F-W-S

**304-516 Art Metal II** 1-3 Cr. Advanced problems in design and construction of jewelry, hollow forms and objects in precious and non-precious materials. Initial enrollment must be for 3 credits. Prerequisite: 304-515. Repeatable for credit. F-W-S

**304-517 Printmaking I** 3 Cr. Introduction to the concepts and techniques of printmaking. Prerequisites: 304-100 and 304-101. F-W-S

**304-518 Printmaking II** 1-3 Cr. Advanced work in the processes of relief, silkscreen, etching, or lithographic printmaking. Initial enrollment must be for 3 credits. Prerequisites: 304-500 and 304-517. Repeatable for credit. W-S

**304-520 Clay and Glaze Laboratory** 1 Cr. Procedures and processes in testing of clays; formulation of clay bodies and development of clay slips and ceramic glazes for artist/potter. Prerequisite: 304-513 or 304-514 or consent of instructor.

**304-522 Modern Art** 3 Cr. The main currents and developments in art from Monet and Cezanne to 1950. F

**304-523 Survey of Art—Ancient Through Medieval** 3 Cr. The painting, sculpture, architecture and minor arts in the ancient western world.

**304-524 Survey of Art—Renaissance Through 20th Century** 3 Cr. Sculpture, painting, architecture and minor arts of western world from 14th century to present.

**304-525 Egyptian and Mesopotamian Art** 3 Cr. The evolution of the arts of ancient Egypt and the Near East.

**304-526 Greek and Roman Art** 3 Cr. The arts of ancient Greece and Rome.

**304-527 Medieval Art** 3 Cr. The arts of Europe and Byzantium from late Roman Empire to end of Middle Ages.

**304-528 Italian Renaissance Art** 3 Cr. Architecture, sculpture, and painting of the Italian Renaissance from 14th to 17th century.

**304-529 Northern Renaissance Art** 3 Cr. Renaissance art in Northern Europe from 15th to 17th century.

**304-531 Southern Baroque Art** 3 Cr. Development of art in Southern Europe from Italian Renaissance to 18th century.

**304-532 Economics of House Furnishing** 3 Cr. Study of consumer house furnishing problems based on utilitarian, economic, aesthetic and social values of household commodities. Quantity and quality budgets at different price levels. Visits to house furnishing markets. F

**304-533 Period Furnishings** 3 Cr. A survey of furniture and furnishings in the western world. F

**304-534 Fashion Illustration** 3 Cr. Problems in graphic techniques, fashion illustration, contemporary fashion design and advertising presentation. Prerequisite: 304-101. F-W

**304-545 Senior Seminar** 1 Cr. Professional practice including portfolio and senior exhibition; current ideas and career opportunities within the art profession. Prerequisite: Senior standing in program. S

**304-556 Advanced Art Workshop** 1-3 Cr. Selected art concepts, processes and media will vary to serve special student populations. For students familiar with workshop approach or advanced in art program. Credit determined by individual contract. Prerequisite: consent of instructor. Repeatable for credit.

**304-590 A Design Problem: Team Approach** 3 Cr. Interdisciplinary team approach to design concepts solving specific problems. Results represented by working prototype. Prerequisite: advanced level in individual students to be selected by instructor. Repeatable for credit. F-W-S

**304-602 American Art** 3 Cr. Development of visual arts in the U.S. from colonial period to 1950.

**304-603 19th Century Art in Europe** 3 Cr. History of European art from about 1800 to 1900.

**304-604 Art Since 1950** 3 Cr. Developments in painting and sculpture in Europe and America since 1950.

**304-606 Oriental Art** 3 Cr. Art from prehistoric times to 19th century in China, Japan and their spheres of influence.

**304-607 Aesthetics** 3 Cr. Examination of the philosophers of contending theories in art. Prerequisite: 304-522. F-W

## BIOLOGY

**308-506 Food Microbiology** 3 Cr. Methods of food preservation, their effectiveness and related food spoilage by microorganisms. Quality control techniques used to determine presence of specific groups of economically important microorganisms. Prerequisite: 308-306. F-W

**308-650 Neuroanatomy** 2 Cr. Cross and functional anatomy of the human nervous system with emphasis on the brain and autonomic division. F

**308-651 Psychobiology** 2 Cr. Biological basis of human and animal behavior: evolution of physiological and behavioral adaptations of organisms to their environment. W

## CHEMISTRY

**311-501 Physical Chemistry Lecture** 3 Cr. Fundamental physical chemistry; behavior of gases, liquid state, properties of solutions, principles of thermodynamics, thermochemistry. Taken concurrently with 311-503. Recommended: 311-531. Prerequisites: 311-115 or 311-125 or 311-135 and 355-156. F-W

**311-503 Physical Chemistry Laboratory** 1 Cr. Lab course to be taken concurrently with 311-501. Experimental techniques and apparatus; treatment of experimental data. Recommended: 311-531. Special course fee. Prerequisites: 311-115 or 311-125 or 311-135 and 355-156.

**311-511 Biochemistry** 4 Cr. Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures. Special course fee. Prerequisites: 308-132 and 311-201. F-W

**311-515 Food Chemistry** 3 Cr. Organic biochemistry of foods: enzymatic and non-enzymatic changes associated with food preparation and storage (Maillard-Browning reaction), denaturation of protein, changes in color, odor, texture and nutritive value. Techniques for isolation and identification of biochemical constituents of foods. Special course fee. Prerequisites: 311-115 or 311-125 or 311-135, 311-201 and 311-203. W

**311-531 Quantitative Analysis** 3 Cr. Introduction to the principles of quantitative chemical analysis and training in precision laboratory techniques. Special course fee. Prerequisite: 311-115 or 311-135. F

**311-535 Instrumental Methods of Analysis** 3 Cr. Application of instrumental methods to chemical analysis: electrochemical, spectral; applications of common instrumental methods. Techniques for obtaining reliable results by instrumental means. Recommended: 311-531. Special course fee. Prerequisite: 311-115 or 311-125 or 311-135. W

**311-541 Chemistry of Materials** 3 Cr. Practical applications of principles and facts of chemistry to technological problems: structure and properties of common materials; fuels (solid, liquid, gaseous, fossil, nuclear) and air pollution; water (domestic, industrial, sewage) and water pollution; electrical properties (cells, batteries, fuel cells, electrolysis) and corrosion of metals; protective coatings (paints, varnishes, enamels, lacquers, plating, anodizing, cladding). Special course fee. Prerequisite: 311-115 or 311-125 or 311-135. F-W

**311-542 Industrial Hygiene** 3 Cr. Principles and techniques for recognizing, evaluating, and controlling existing or potential occupational health hazards that affect employee safety and health.

**311-553 Environmental Chemistry** 3 Cr. Principles and origins of chemical reactions that lead to ecological imbalance; systems that have contributed to large-scale environmental pollution and/or are of current importance; chemical technology needed to correct imbalance. Special course fee. Prerequisite: 311-115 or high school chemistry and consent of instructor. F-W

**311-612 Advanced Biochemistry** 3 Cr. Molecular biology of humans and other organisms; biosynthesis and catabolism, emphasizing enzyme action; chemistry of specific tissues and fluids. Prerequisites: 311-201, 311-203 and 311-511. F-W

**311-652 Hazardous Waste Management** 3 Cr. Management of hazardous wastes; compliance with governmental regulations in recognition, storage, shipping and reporting of hazardous wastes. Special course fee. Prerequisite: 311-652 or consent of instructor F-W-S

**311-710 Industrial Hygiene Instrumentation** 2 Cr. Work place environment analysis by direct reading and integrated sampling techniques. Special course fee. Prerequisites: 311-542, consent of instructor F-W-S

## ECONOMICS

**320-550 Managerial Economics** 3 Cr. Decision-making, demand and cost analysis, competitive and non-competitive price systems, marketing problems, capital budgeting and criteria for investment decisions. Prerequisite: 320-215. F-W

<p><b>320-680 International Trade</b> 3 Cr. Theory and practice of capital movements; foreign exchange rates and controls; balance of payments; tariffs. F-W</p>	<p><b>354-531 Design of Experiments I</b> 2 Cr. Linear and curvilinear regression, single-factor designs, confidence ellipsoids for means, blocking, Latin and other squares, factorial designs. Prerequisite: 354-332 or consent of instructor. F</p>	<p><b>372-529 Atomic and Nuclear Physics</b> 3 Cr. Elements of atomic and nuclear physics. Prerequisites: 372-223 and 355-153. F</p>
<p><b>320-720 Labor and Industrial Relations</b> 2 Cr. Human relations in industry from the viewpoint of labor, management and the government. W-S</p>	<p><b>354-532 Design of Experiments II</b> 2 Cr. Fixed-effect, random-effect and mixed models; nested and nested-factorial designs, split-plot designs, confounding in blocks, analysis of covariance, response surfaces, sequential analysis. Prerequisite: 354-531. W</p>	<p><b>372-531 Statics</b> 3 Cr. Essential elements of statics: simple force system, theory and application of non-concurrent forces, couples, friction, non-coplanar forces, trusses and other structures. Prerequisites: 354-141, 355-153 and 372-221. F</p>
<h2>ENGLISH AND JOURNALISM</h2>		
<p><b>326-500 Literature for the Reading Child and Adolescent</b> 3 Cr. Critical survey of literature for children (age 8 to beginning to read adult literature); adolescent literature and media presentations of literature. Prerequisite: 326-102 or 326-112. W</p>	<p><b>354-535 Applied Stochastic Processes I</b> 2 Cr. Stochastic processes, Markov chains, stationary distributions, construction of Markov processes, Poisson and birth and death processes, review of statistical inference as applied to these processes. Prerequisites: 354-332 or 354-530 and consent of instructor.</p>	<p><b>372-533 Dynamics</b> 3 Cr. Essential elements of dynamics: rectilinear, angular and harmonic motions; forces producing motion, work, energy, acceleration, impulse and momentum. Prerequisite: 372-531. W</p>
<p><b>326-505 American Regionalism</b> 3 Cr. American regional literature since 1880: the regions themselves and American perceptions of those regions. Prerequisite: 326-102 or 326-112. F-W-S</p>	<p><b>354-536 Applied Stochastic Processes II</b> 2 Cr. Application of topics introduced in 354-535: theory of reliability; branching, social and behavioral, and queueing processes. Prerequisite: 354-535.</p>	<p><b>372-535 Optics</b> 3 Cr. Optics with emphasis on the wave nature of light: interference, diffraction, polarization, and coherence; their applications in holography. Prerequisites: 372-223, one year of calculus. W</p>
<p><b>326-515 Technical Writing</b> 3 Cr. On-the-job writing for business and industry; reports, letters, and other documents. Prerequisites: 326-102 or 326-112 and junior standing, junior standing F-W-S</p>	<p><b>354-590 Topics I-3</b> 1-3 Cr. Topics of current importance in applications of mathematics to problems in business, industry, government or society. May be repeated for additional credit with consent of program director. S</p>	<p><b>372-537 Electricity and Magnetism</b> 3 Cr. Properties of electric and magnetic fields in free space and material media. Prerequisites: 372-221 or 355-154, concurrent registration. F</p>
<p><b>326-518 Mass Communication in American Society</b> 3 Cr. History, social implications and future of mass media of communications. Prerequisite: 326-102 or 326-112. F</p>	<p><b>354-590 Topics I-3</b> 1-3 Cr. Topics of current importance in applications of mathematics to problems in business, industry, government or society. May be repeated for additional credit with consent of program director. S</p>	<p><b>POLITICAL SCIENCE</b></p>
<p><b>326-535 Writing Technical Manuals</b> 3 Cr. Production of a technical manual—planning procedure, collecting information, analyzing audience, writing and field testing. Prerequisites: 326-101, 326-102, 326-515 or 326-516 or consent of instructor F-W-S</p>	<p><b>354-640 Computer Use in Education</b> 3 Cr. Computer use in administrative, research and instructional aspects of education. S</p>	<p><b>375-510 Public Policy Analysis</b> 3 Cr. Analysis of origins of public policy and policy-making process. Specific case studies of public policy. Prerequisite: 375-210 or consent of instructor. W</p>
<p><b>326-537 Technical Writing Practicum</b> 1-3 Cr. Plan, write and produce a technical document for a client. Principles of document design, clear writing for a specific audience, methods of determining client needs, and methods of producing the final document. Prerequisite: 326-515 or 326-516 or equivalent and consent of instructor. Repeatable for credit. F-W-S</p>	<p><b>354-741 Computer Programming Techniques</b> 2 Cr. Introduction to computer systems and their utilization. Emphasis on translating language with application to individual research projects, statistical or developmental. Not open to students who have completed 354-141. Prerequisite: graduate standing. F-W-S</p>	<p><b>375-550 Politics and Technology</b> 3 Cr. Contemporary and future technological innovations; relationship between political institutions and promotion, regulation and impact of industry and technology in the U.S. and other selected countries. Prerequisite: junior standing or senior standing. F</p>
<p><b>326-546 Research Reporting</b> 3 Cr. Effective organization and presentation of individual research. Prerequisites: 326-102, 326-112. F</p>	<p><b>PHYSICS</b></p>	<p><b>SOCIOLOGY</b></p>
<p><b>APPLIED MATHEMATICS</b></p>	<p><b>372-518 Microprocessors and Applications</b> 3 Cr. Equipment, interfacing and programming for microprocessor systems. Prerequisite: Ten credits in lab-based physics or electronics and two credits in computer programming. F-W</p>	<p><b>387-515 Criminology</b> 3 Cr. Sociological analysis of structure and function of criminal law, variables of criminal behavior and operation of criminal justice system. Prerequisite: 387-110. W</p>
<p><b>354-530 Statistical Methods</b> 3 Cr. Histograms, mean and standard deviation, combinatorics, probability; binomial, hypergeometric, normal, chi-square, T and F distributions and their uses; statistical inference; contingency tables, linear models, analysis of variance with appropriate applications. Prerequisites: 355-120, or equivalent and three years of high school math. F-W-S</p>	<p><b>372-519 Advanced Microprocessor Laboratory</b> 3 Cr. Advanced project: design, construction, and trouble-shooting of a functioning microprocessor system. Prerequisites: 372-518 and consent of instructor.</p>	<p><b>387-525 Sociology of Leisure</b> 3 Cr. Institutional approach to effects of leisure on social structure; values reflected in leisure; problems with increase in leisure resources. Prerequisite: 387-110. W</p>
	<p><b>372-527 Solid State Physics</b> 3 Cr. Crystalline structure, lattice vibration and energy states, Brillouin zones, electrons in metals, semi-conductors, and dielectric and magnetic properties of solids. Prerequisites: 372-282 or 372-242 and 355-157 or 355-154. W</p>	<p><b>387-540 Sociology of Work</b> 3 Cr. Human behavior in various types of employment and occupations; trends in U.S. occupational structure. Prerequisite: 387-110. F-W</p>
		<p><b>387-550 Sociology of Technology</b> 3 Cr. Relationships between technology and social structure with emphasis on future projections. Prerequisite: 387-110. F-W-S</p>

<p><b>387-560 Sociology of Juvenile Delinquency</b> 3 Cr. Definitions of and trends in deviant behavior among youth; research findings; efforts in prevention, control and treatment. Prerequisite: 387-110. F-W</p> <p><b>387-710 Sociological Foundations for Guidance</b> 3 Cr. A sociological perspective will be briefly introduced (or, re-introduced), applied to an examination of certain problems of modern society relevant to the practice of the guidance counselor, and finally, directed to an analysis of the social role of the guidance counselor. S</p>	<p><b>SPEECH</b></p> <p><b>391-508 Speech Skills for Business and Industry</b> 2 Cr. Technical speaking; projects in application of speech skills and activities in business and industry. Prerequisites: 391-100 and junior standing. F-W-S</p> <p><b>391-512 Speech Skills for Educators</b> 2 Cr. Application of leadership techniques and speech skills in classroom and educational activities; two-way communication as aspect of classroom climate. Prerequisites: 391-100 and junior standing. F-W-S</p>	<p><b>391-514 Interviewing</b> 1 Cr. Principles and techniques for interviewee in employment interviews. Prerequisite: 391-100. F-W</p> <p><b>391-554 Television Programming and Performance</b> 3 Cr. Planning, writing and performing instructional, public service, special feature or dramatic television programs. Prerequisites: 391-100 and junior standing or consent of instructor. F-W</p>
--	--	--

## EDUCATION AND HUMAN SERVICES

### COUNSELING

**413-501 Introduction to Guidance** 2 Cr. Policies and practices of organized guidance programs in educational settings; historical, philosophical and cultural bases for guidance services; guidance techniques for teachers; cooperative efforts of teachers, parents and counselors. F-W-S

**413-510 Early Childhood Assessment** 3 Cr. Theory and techniques of assessing child development (birth through 8 years) in cognitive, psychomotor and socioemotional areas.

**413-571 The Psychology of Marriage and the Family** 2 Cr. A study of the interpersonal relations involved in dating, mating, and family collaboration with growing awareness of patterns for self-integration. F-W

**413-600 Workshop** 1-3 Cr. Changing career related societal forces affecting the populations attending VTAE schools; resulting programs and services. Prerequisite: consent of instructor. Repeatable for credit. F-S

**413-600A Workshop** 1-3 Cr. Changing career related societal forces affecting the populations attending VTAE schools; resulting programs and services. Repeatable for credit. F-S

**413-629 Guidance in the Elementary School** 2 Cr. Nature and conditions of guidance in elementary schools; curricular and non-curricular guidance techniques, referrals, parent counseling; guidance principles and practices applied to elementary school child. W-S

**413-634 Technical/Vocational Education Student** 2 Cr. Characteristics of vocational/technical student affecting social, physical, emotional and intellectual development in adolescent-to-young-adult transition; implications for guidance, counseling and vocational education.

**413-647 Behavior Problems of Children** 2 Cr. Psychological, social and environmental factors contributing to developing child's behavior; cause and treatment of behavioral disorders in children 3 through 12; methods of observing, diagnosing, documenting and interpreting; underlying behavioral dynamics of problem children. Prerequisite: consent of instructor. W-S

**413-648 Learning Disabilities in Young Children** 2 Cr. Early recognition through observation and use of screening instruments; general and specific developmental delays in the young child; programming to maximize readiness for academic learning.

**413-650 Behavior Problems of Adolescents** 2 Cr. Behavior problems of contemporary American adolescents; identification, etiology, intervention and prevention; guidance techniques and processes for teachers, counselors, school psychologists, social service and child care workers, and parents.

**413-666 Alcoholism and Family Systems Intervention** 2 Cr. The role of alcoholism in the family and how to intervene therapeutically. W-S

**413-675 Counseling Theory** 2 Cr. Theoretical approaches to counseling: psychoanalytic adaptations, behaviorism, trait-factor, client-centered and others; nature of man, underlying personality theory, goals of counseling, role of counselor and illustrative practical applications in each approach; develop beginning personal theory of counseling. Prerequisite: 413-501. F-W-S

**413-694 Counseling Older Persons** 2-3 Cr. Training service providers in counseling skills and gerontology through discussion, observation and supervised counseling experiences. W

**413-700 Seminar in Counseling and Psychological Services** 1-3 Cr. Special topics on current developments in the field. Each seminar is devoted to a specific development to be indicated with a sub-title and description. Prerequisite: consent of instructor. Repeatable for credit. S

**413-705 Play Therapy** 2 Cr. A survey and study of play therapeutic techniques. Observation and supervised experiences. Prerequisites: 479-730, 479-760. F-W-S

**413-715 Orientation to Mental Health Counseling** 1 Cr. Orientation to Wisconsin mental health system, chapter 51.42, and to the role and function of mental health counselors. Counseling services for mentally ill, alcohol and drug abusers, and developmentally disabled will be discussed. F

**413-718 Shame, Addiction and Substance Abuse** 3 Cr. Exploration of the central role of shame in the process of addiction. Relationship between physiological and psychological affects of substances and the 'shame based' person on addictions. Implications for treatment. Prerequisite: 459-520 or Consent of instructor F

**413-721 Alcohol and Drug Abuse Treatment Programs** 3 Cr. Psychological factors in alcohol and drug abuse. Treatment programs and approaches used by alcohol and drug abuse counselors. Prerequisites: 110-574, concurrent registration or consent of instructor. W

**413-725 Counseling with Special Populations** 3 Cr. Overview of specialized counseling needs in special populations such as ethnic minorities, women and men in transition, chronically ill, job displaced, and strategies for counseling these populations. F

**413-731 Problems in Counseling and Psychological Services** 2 Cr. Plan B investigations are the primary purpose of this course. Students who are ready to write their Plan B paper should register for this course and then confer with the major advisor to select a staff member who will serve as an investigation advisor. Meetings with the advisor are by arrangement only. Prerequisite: consent of instructor or twelve hours of graduate credit in an appropriate program sequence, including 421-740. F-W-S

**413-733 Career Development Process and Issues** 2 Cr. Career development concepts, theories, and related social issues that affect people's career choices. F-S

<p><b>413-733A Career Information Laboratory</b> 1 Cr. Laboratory experience with print and nonprint occupational, educational and personal information; assessment instruments; and instrument and program evaluation techniques. Prerequisite: 413-733 or concurrent registration. F-S</p>	<p><b>413-775 Alcohol and Drug Abuse Counseling Practicum I</b> 8 Cr. Counseling under supervision in an alcohol and drug abuse treatment facility. Laboratory instruction on various aspects of alcohol and drug abuse treatment approaches. Prerequisites: 413-788, 413-721 and admission to Alcohol and Drug Abuse Counseling concentration. F</p>	<p><b>413-794 Marriage and Family Therapy Practicum 4</b> Cr. Sequel to 413-793. Continuing preparation for professional marriage and family counseling services through seminar discussions, observation, and supervised counseling. Prerequisites: 212-793 and 413-793, 212-794, concurrent registration. W</p>
<p><b>413-744 Psychometric Aids to Marriage and Family Therapy</b> 2 Cr. Instruction and practice in the administration and interpretation of tests appropriate for this area. Practice in treatment application of test results. Prerequisite: 489-753. F</p>	<p><b>413-750 Appraising the Individual</b> 2 Cr. The case study approach to synthesis of test and non-test appraisal data. Prerequisite: 413-501.</p>	<p><b>413-795 Marriage and Family Therapy Practicum</b> 1-2 Cr. The study and application of family theory in a clinical setting. Prerequisite: acceptance into M.S. Degree program in Marriage &amp; Family Therapy or permission of the program director. S</p>
<p><b>413-752 Group Dynamics</b> 2 Cr. A study of group approaches for providing guidance services to pupils. Designed to help counselors and teacher-counselors understand how groups may be used as a setting for guidance and counseling. Prerequisites: 413-501, 413-675. F-W-S</p>	<p><b>413-776 Alcohol and Drug Abuse Counseling Practicum II</b> 8 Cr. A continuation of Alcohol and Drug Abuse Counseling Practicum I. Students will continue a supervised counseling experience in an appropriate treatment facility and related laboratory instruction. Prerequisite: 413-775. W</p>	<p><b>413-800 Field Study</b> 2-6 Cr. Experience in action type field research in pupil personnel services. The student will identify and research a topic directly related to his career position. Preparation and presentation of a formal report of the study to appropriate personnel. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. Repeatable for credit. F-W-S</p>
<p><b>413-760 Theories and Techniques of Behavior Modification</b> 2 Cr. Theoretical and empirical bases for utilizing behavior modification procedures in schools, clinics and other institutions. Emphasizes role of behavioral consultant. Prerequisite: 479-530 or 479-730, or equivalent. W</p>	<p><b>413-785 Seminar in Hypnosis</b> 2 Cr. Historical and present trends, myths/misconceptions, experimentation, research and counseling/therapeutic uses and misuses of hypnosis and related techniques. Prerequisites: consent of instructor and advanced graduate standing.</p>	<p><b>413-880 Multiple Counseling and Sensitivity Training</b> 2 Cr. A laboratory experience in the analysis and application of group dynamics and group behavior as related to attitude and behavior change. The origin of conflict, cooperation and misunderstanding within groups. Developing insight and sensitivity towards the student's own attitudes towards other people and their own motivation and value systems in human relations. Prerequisite: advanced graduate standing.</p>
<p><b>413-765 Organization and Administration of Guidance</b> 3 Cr. Organizational and administrative techniques for providing effective school guidance services in k-post secondary programs. Prerequisite: 413-675. W-S</p>	<p><b>413-787 Career Placement Services</b> 1-3 Cr. Development of a community/school-based placement system for schools, post-secondary schools, and/or agencies. May be taken for 1-3 credits and may be repeated once with consent of instructor, if taken for less than 3 credits. W-S</p>	<p><b>413-892 Advanced Counseling Practicum</b> 2 Cr. Clinical supervised counseling experiences in a variety of school institutional and agency settings. Designed to assist the student to more adequately understand and apply the dynamics of human behavior in the one-to-one counseling relationship. A minimum of sixty to ninety clock hours of experience is required. Prerequisite: 413-790. Repeatable for credit. F-W-S</p>
<p><b>413-770 Thesis</b> 2-6 Cr. Independent research under direction of investigation advisor. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of 6. Prerequisites: 421-740, approval of major director. Repeatable for credit. F-W-S.</p>	<p><b>413-788 Counseling Process Laboratory</b> 3 Cr. Basic attending and influencing skills used in the one-to-one and one-to-group situations involving laboratory experiences, such as counseling, feedback, critiquing, modeling, assessing and evaluating. F-W-S</p>	<p><b>413-895 Supervision of Counselors and Counseling</b> 2 Cr. Practical applied experiences in the supervision of counseling and counselors; investigation, analysis and application of the psychology of learning and helping as the supervisor assists other personnel services staff in their professional and personal growth and development. Prerequisite: 413-790.</p>
<p><b>413-774 Supervised Internship in Student Personnel Service</b> 6 Cr. Counseling and guidance with a variety of clients in a variety of settings. Practical experience in several types of personnel services. Intensive study &amp; seminar presentations of a single personnel service, its history, philosophy, programs, evaluation and future prospects. The services which may be studied include resident hall living, student activities, financial aids, counseling and advisement programs, admissions and records. Prerequisites: 413-711, 413-749.</p>	<p><b>413-791 Internship in Guidance and Counseling</b> 8 Cr. The student will devote a minimum of 360 clock hours, full-time (each quarter) in a local school serving as a school counselor. In this experience, they will be supervised by university personnel and work with a fully certified local school counselor. Experiences include all aspects of the guidance function. Repeatable for credit. F-W</p>	<p><b>413-899 Supervision of Counselors and Counseling Practicum</b> 4 Cr. Preparation for professional marriage and family counseling services through seminar discussions, observation, and supervised counseling experience. Prerequisites: 212-793, concurrent registration, personal screening and approval by instructor or admission without deficiency to the proposed program in Marriage &amp; Family Therapy; commitment to the 2nd semester sequel; enrollment in 413-794 and 212-794. F</p>
<p><b>EDUCATION</b></p>	<p><b>421-522 Secondary Education Seminar</b> 2 Cr. For post-student teaching, discussion of the evaluation, status, and trends of secondary education. The experiences of the students' teaching related to the needs of our democratic society; philosophy, organization, problems, curriculum development, and the responsibilities of the individual teacher.</p>	

<p><b>421-536 Working With the Culturally Different</b> 2 Cr. Intensive study and practical experience in working with the culturally different. Prerequisite: 421-205. F-W-S</p>	<p><b>421-700 Philosophy of Modern Education</b> 2 Cr. A comparative study of the main schools of educational philosophy and of their influence in contemporary education, thought, and practice. points of agreement and of conflict.</p>	<p><b>421-738 Elementary School Curriculum</b> 2-3 Cr. A study of the social, psychological, cultural, economic, and educational forces operating to bring about changes in the curriculum of the elementary school, k-8. Outstanding state and local curriculum construction programs. Observation and evaluation of the modern elementary school curriculum trends and innovations. Review of curriculum development. F-W-S</p>
<p><b>421-570 Elements of Instruction</b> 1-2 Cr. Techniques in the Madeline Hunter method of researched topics of instruction. Teaching to an objective, selecting objectives at the correct level of difficulty, monitor and adjust, and principles of learning including motivation, retention, transfer, set, active participation, reinforcement and closure.</p>	<p><b>421-702 Principles of Supervision</b> 2-3 Cr. Basic principles, types, functions, organizations, and plans of supervision. Interpretation and application of creative supervision plans; individual and class projects concerned with applied methods of supervision in selected educational areas. W-S</p>	<p><b>421-739 High School Curriculum</b> 2 Cr. A study of the social, psychological, cultural, economic and educational forces operating to bring about changes in the curriculum of the secondary school. Outstanding state and local curriculum construction programs. Observation and evaluation of the modern high school curriculum, trends and innovations. Review of curriculum development. F-W-S</p>
<p><b>421-576 Field Experience - Cross Cultural Experience</b> 1 Cr. Supervised one-on-one or small group experience in a school or other setting in response to a special academic or social need with representatives of one or more of the following designated ethnic minority groups—African-Americans, Asian-Americans, Pacific Islander-Americans, American Indians and Hispanic-Americans; and various socio-economic groups, specifically the low-income. Prerequisite: 421-536 or consent of instructor F-W-S</p>	<p><b>421-705 Social Thought of American Educators</b> 2 Cr. The school as a social institution within American democracy. Contributions of the past to education and current philosophies. Historical review, evaluation and consideration of the public school as a social institution.</p>	<p><b>421-740 Research Foundations</b> 4 Cr. This course serves as an introduction to basic concepts and principles in educational research. The course utilizes mastery grading and elements of individualized instruction. The course functions to help prepare the student for his own graduate research experiences and also to prepare him to be an articulate consumer of research upon completion of the course. Prerequisite: graduate standing or consent of instructor. F-W-S</p>
<p><b>421-582 Secondary Reading and Language Development</b> 2 Cr. Effective utilization of reading and language development methodologies in secondary content area classrooms. Prerequisite: 421-303. F-W-S</p>	<p><b>421-712 Analysis of Teaching Behavior</b> 2 Cr.</p>	<p>Principles and strategies for analyzing teaching behavior in which strengths, desired improvements, and a professional development plan are identified.</p>
<p><b>421-600 Workshop—Special Topics in Education</b> 1-3 Cr. Current specialized topics studied through experimental activities. Prerequisite: consent of instructor. Repeatable for credit.</p>	<p><b>421-714 Teaching Strategies</b> 4 Cr. Intensive study and practice in mediating the learning process. Focus on the individual teacher and his active role as an instrument which can bring about predictable changes in student cognitive behavior. Minor consideration given to affective and psychomotor behavior. Lecture, discussion and micro-teaching. F-W-S</p>	<p><b>421-742 Program Evaluation</b> 3 Cr.</p>
<p><b>421-615 Educating At-Risk Students</b> 2 Cr. Characteristics, needs, assessment procedures, alternative curricula and methods, intervention, and management strategies for at-risk students.</p>	<p><b>421-720 Instructional Processes</b> 3 Cr. Examine processes utilized in instruction in various content areas. Focuses on methods and techniques for teaching thinking (reasoning), problem-solving, decision-making, and valuing skills. Examines social methods of learning with emphasis on cooperative learning.</p>	<p>Surveys theory and practice of evaluating the effectiveness of a variety of human-service delivering systems, including education. Develops applied competencies in analyzing values and needs of decision makers and articulation and assessment of program objectives (both process and product). Emphasis on building efficient, ongoing evaluation systems.</p>
<p><b>421-641 Education Evaluation</b> 2 Cr. Testing, the interpretation of tests by means of simple statistical procedures; methods of evaluating educational programs.</p>	<p><b>421-726 Administration</b> 2-3 Cr. Philosophy and principles underlying organization and operation of public education on the local, state, and national levels in the United States. Examinations of prevailing practices and current problems of school management.</p>	<p><b>421-744 Seminars in Education</b> 1-3 Cr.</p>
<p><b>421-683 Seminar in Reading Methods for Secondary Schools</b> 1 Cr. Selection, research and presentation for discussion of topics related to reading in secondary schools. Prerequisite: 421-682. F-W-S</p>	<p><b>421-727 Supervision of Student Teachers</b> 2 Cr. Purpose and philosophy of supervision, the role of the cadet center in preparing teachers, relationships and responsibilities of persons involved, orientation, guidance, and evaluation of student teachers. F-W-S</p>	<p>Special topics on current developments in the field. Each seminar devoted to a specific development to be indicated with a sub-title and description. Repeatable for credit. F-W-S</p>
<p><b>421-685 Psychology of Adult Education</b> 2 Cr. A global view of the philosophy, purpose and practice in various programs of adult education, and an examination of the characteristics of the adult learner plus a profile of his ego, intelligence, and development.</p>	<p><b>421-733 Survey Procedures</b> 2 Cr. Procedures and organization for conducting surveys. Application of principles by making and writing the report of an actual survey. Prerequisite: 421-740.</p>	<p><b>421-750 Curriculum Theory and Practice</b> 2-3 Cr. A study of curriculum theory and its application. An analysis and development of a rationale, writing educational objectives, identifying a body of knowledge, specifying methodology, and conducting curriculum evaluation. F-W-S</p>
<p><b>421-690 Learning Style Theory and Application</b> 2 Cr. An introduction to the educational sciences, including cognitive mapping. Emphasis is placed on the practical application of the educational sciences in an educational setting. Prerequisite: junior standing.</p>		<p><b>421-765 Problems in Education</b> 2 Cr. Identification, selection and completion of a research problem in education culminating in a Plan B research paper. Prerequisites: 421-740, approval of program director. F-W-S</p>

**421-770 Thesis 6 Cr.** Independent research under direction of investigation advisor. Selection of problem, review of literature, planning and conducting research, interpretation of findings and preparation of final paper according to thesis standards. Student may enroll for two, four or six semester hours of credit in various terms for a final total of six. Prerequisites: 421-740, approval of program director. F-W-S

**421-784 Classroom Discipline 2 Cr.** Problems of motivation and discipline in contemporary classrooms. Teachers identify problem situations in k-12 classrooms and explore alternative approaches to dealing with those problems.

**421-811 Structuring Knowledge 2 Cr.** Study of methods for structuring knowledge. Relationships between the structure and its application. Structure of knowledge, discipline and curriculum relationships. Prerequisite: acceptance in educational specialist program.

**421-816 Instrumentation for Research 3 Cr.** Basic concepts in the areas of validity and reliability will be studied and applied to the design of instruments. Emphasis will be placed on conceptualizing the constructs or characteristics to be measured. Techniques of item writing, item analysis, determining reliability, and scaling will be covered, including such ideas as a quiscent set, item difficulty, and discrimination. The student will engage in the study of procedures and techniques for gathering, analyzing, and reporting data and findings as applied to his proposed field study.

**421-830 Educational Administrative Behavior 3 Cr.** The course will cover the history of the development of administration and the use of theory in the study of organizations, the application of theory to the study of administrative behavior and the school as a social system including the study of the elements of leadership, organizational change, and a review of current and emerging concepts in administrative behavior. Prerequisite: graduate standing.

**421-890 Field Study in Professional Education 2-6 Cr.** Supervised study which provides the graduate student with the opportunity to: (1) explore in-depth the body of knowledge associated with a selected problem in professional education, (2) provide an educational experience for implementing this knowledge into a selected institutional setting, and (3) devise methods to determine if the implementation is or will be successful. Prerequisite: approval of the director of the major. F-W-S

## **SPECIAL EDUCATION**

**431-501 Learning Disabilities 3 Cr.** Identification, remediation and evaluation of learning disabled; intervention techniques used with adolescents and adults. W

**431-516 Psychology of the Exceptional Child 2-3 Cr.** History and treatment of exceptional individuals; characteristics and development of children who deviate from the norm: learning disabled, gifted, mentally retarded, socially and emotionally disturbed, abused, speech and language impaired, and those with visual, hearing, orthopedic and chronic health problems. F-W

**431-518 Clinical Experience with the Handicapped 2 Cr.** Tutor a handicapped individual in an on-campus or educational setting. To be taken concurrently with 431-561. F-W-S

**431-522 Teaching Basic Skills to the Mentally Retarded 3 Cr.** Curriculum and instructional techniques for developing basic academic and functional living skills for mild/ moderate mentally retarded youth. Prerequisites: 431-585, 421-304 or Consent of instructor W

**431-524 Career and Vocational Education for the Retarded 3 Cr.** Curriculum and instruction for mentally retarded learners in prevocational career, and vocational education stressing interdisciplinary cooperation. Prerequisites: 431-585, 421-304 or Consent of Instructor F

**431-526 Practicum in Special Education 2 Cr.** Off-campus work and study in educational settings with handicapped youth. To be taken concurrently with 431-661. Prerequisite: consent of instructor. F

**431-528 Assessment for Individual Educational Planning 2 Cr.** Diagnosing behavior and learning problems of the special needs learner. Prepare individual educational plans. F-W-S

**431-581 Legal Rights of Handicapped 2 Cr.** Current litigation, civil commitment, criminal proceedings, federal and state statutes, and civil rights regarding the handicapped student and adult. Prerequisite: 431-532. W

**431-585 Introduction to Mental Retardation 2 Cr.** Introduction to etiology of mental retardation; psychological, educational, social and vocational aspects; adjustment techniques used in working with mentally retarded persons. F

**431-595 The Gifted Student 2 Cr.** Characteristics of gifted, creative and talented individuals; identification in educational settings; social, psychological and educational aspects of providing for the gifted throughout school years. S

**431-600 Workshop: Topics in Special Education 1-3 Cr.** Current specialized topics studied through experiential activities. Prerequisite: approval of instructor S

**431-630 Mainstreaming Special Students 3 Cr.** Learning characteristics and behavior of mentally retarded, learning disabled, socially and emotionally disturbed, hearing and sight impaired, orthopedically and chronic health impaired, speech and language impaired students; services mandated by PL94-142, M-team process, and individualized educational plan; instruction of handicapped within regular classes. F-W-S

**431-662 Classroom Management Techniques 3 Cr.** Techniques for motivating handicapped youth, individual and group discipline, behavior modification, educational organization, evaluation, and communication to enhance learning. W

**431-700 Special Needs Learners in Vocational Education 2 Cr.** Overview of legislation, program models: assessment and instructional practices pertaining to vocational education for handicapped, disadvantaged, and gifted students. Emphasis on services provided to special needs learners within regular class. S

**431-725 Programming for Vocational Special Needs 2 Cr.** Typical and alternative vocational programming for Special Needs students. Appropriate management strategies for the various program types. S

**431-790 Special Education Seminar 1-3 Cr.** 1-3 Cr. Special topics designed to upgrade the competencies and knowledge of participants on current developments in the field. Content will change to reflect the state of the art in special education. Repeatable for credit. Repeatable for credit. F-W-S

## **VOCATIONAL REHABILITATION**

**459-500 Special Topics in Rehabilitation 1-2 Cr.** Special topics not available through regular courses. Prerequisite: approval of instructor Repeatable for credit. F-W-S

**459-500J Older Disabled Worker 1 Cr.** To understand the developmental stage of later adulthood, its characteristic tasks and how these impact on vocational rehabilitation planning.

**459-500K Disabled Mental Health/Chemical Abuse Services 1 Cr.** Designed to acquaint mental health and chemical abuse professionals with the magnitude of the unmet need for services for persons with disabilities. Functional limitations of persons with physical and sensory disabilities are reviewed as well as practical techniques for enhancing interacting with persons who are disabled.

**459-500N Community-Based Rehabilitation Services 1 Cr.** An examination of national priorities for community-based services designed to enhance competitive employment options for severely disabled persons. F-W-S

<p><b>459-505 Sign Language I</b> 3 Cr. Basic course in manual communication with the deaf. Intensive practice in expressive and receptive communication. Prerequisite: 459-201 or graduate standing. F</p>	<p><b>459-565 Laboratory in Rehabilitation Technology</b> 2 Cr. Experience utilizing technological aids/devices developed for persons with disabilities. Modify/adapt equipment to meet specific functional requirements. Construct switch/ control mechanisms for equipment. Develop prototype solutions to vocational and independent living problems. Prerequisites: 459-560, 170-202, 170-202 or equivalent, or consent of instructor. F-W</p>	<p><b>459-680 Principles of Rehabilitation Counseling</b> 3 Cr. Theory and application of counseling processes in rehabilitation settings. Prerequisite: 479-561 or 431-516. F-W-S</p>
<p><b>459-506 Sign Language II</b> 3 Cr. Intermediate course in manual communication with the deaf: American Sign Language; increase sign vocabulary and communication speed. Prerequisite: 459-505. W</p>	<p><b>459-509 Introduction to Biofeedback</b> 3 Cr. Theory and applications of biofeedback in psychology, rehabilitation, medicine and education; in-depth review of the field; appropriate uses of biofeedback as a referral possibility; preparation for supervised clinical biofeedback experience. Prerequisites: 308-132 and 479-110. F</p>	<p><b>459-682 Sexuality and the Disabled</b> 2 Cr. Programs in sexuality, terms and techniques, exploration of personal biases and development of techniques for dealing with sexuality of disabled individuals. Prerequisites: 459-330, 459-680 or graduate standing. F</p>
<p><b>459-510 Clinical Biofeedback Laboratory</b> 3 Cr. Development of clinical skills and familiarization with laboratory monitoring devices and stress management techniques, as they apply to the training of clients in a clinical biofeedback setting. The course also reviews current clinical research, future directions for the field, and ethical considerations. Prerequisites: 308-220, 413-405, 459-509 and consent of instructor. W</p>	<p><b>459-585 Rehabilitation of the Mentally Retarded</b> 2 Cr. Background in mental retardation; vocational evaluation, adult education and adjustment techniques used with mentally retarded adults. Special course fee. Prerequisite: 459-201 or graduate standing. F-W</p>	<p><b>459-685 Group Processes in Rehabilitation Settings</b> 2 Cr. Theory and application of group processes in rehabilitation settings; direct experience as member and facilitator of a group. Prerequisite: 459-680. W</p>
<p><b>459-510 Clinical Biofeedback Laboratory</b> 3 Cr. Development of clinical skills and familiarization with laboratory monitoring devices and stress management techniques, as they apply to the training of clients in a clinical biofeedback setting. The course also reviews current clinical research, future directions for the field, and ethical considerations. Prerequisites: 308-220, 413-405, 459-509 and consent of instructor. W</p>	<p><b>459-587 Handicapped Workers in Business and Industry</b> 3 Cr. Orientation to handicapped workers in business and industry. Focus is upon the elimination of attitudinal and environmental barriers as they pertain to hiring, productivity, and retention of handicapped workers. Emphasis upon governmental requirements for conformance, linkage between business and rehabilitation, community resources, and staff development. Prerequisite: junior, senior or graduate standing. W</p>	<p><b>459-688 Advanced Job Placement</b> 2 Cr. Job placement methods for individuals with handicaps. Development of Employer Account Systems and the marketing of job placement services. Use of Job Readiness Scales, development of individualized placement plans, and Job Seeking Skills training programs. Current literature and research in job placement will be assigned and discussed. Prerequisite: 459-410 or permission of instructor W</p>
<p><b>459-520 Rehabilitation of the Chemically Dependent</b> 3 Cr. Background in the field of chemical dependency with emphasis on the rehabilitation aspects of the chemically dependent and knowledge of the historical and sociological implications of drug usage. Prerequisites: 459-201 and junior or graduate standing. F</p>	<p><b>459-601 Rehabilitation in the Private Sector</b> 2 Cr. Introduction to the private-for-profit sector of rehabilitation. Orientation to the contractual services offered by practitioners. Industrial in-plant models will be contrasted to other models for providing rehabilitation services to disabled workers. F</p>	<p><b>459-700 Seminar—Vocational Rehabilitation</b> 1-2 Cr. A seminar course devoted to the field of vocational rehabilitation and subject materials pertinent to the field. W</p>
<p><b>459-525 Rehabilitation of the Public Offender</b> 3 Cr. The field of corrections as it concerns the individual and criminal justice institutions; basic legal terms, laws, types of institutions and treatment modalities; treatment effectiveness and trends in criminal justice field. Prerequisites: 459-201 and 479-561 or graduate standing. W</p>	<p><b>459-605 Microcomputer Application for the Handicapped</b> 2 Cr. Use of microcomputer hardware and software to facilitate the development of functional skills of the handicapped. F-W</p>	<p><b>459-703 Physical Disability and Work</b> 3 Cr. Study of physical disabilities and their vocational implications. F</p>
<p><b>459-550 Independent Living</b> 2 Cr. An overview of independent living programs in this country including evolution, goals, methods of service delivery, and program management of ILP. W</p>	<p><b>459-610 Psychological Testing With Handicapped People</b> 2 Cr. Introduction to psychometric tests; administration, interpretation/scoring and application to handicapped populations. F-W-S</p>	<p><b>459-705 Practicum in Rehabilitation Facility Administration</b> 3 Cr. Practical experience in administration within a rehabilitation facility. Examples of experience will include fiscal and personnel management, contract procurement and production management, staff development, contract negotiations. Prerequisites: graduate standing, consent of instructor, Completion of 15 required credits in Rehabilitation Facility Administration concentration W-S</p>
<p><b>459-560 Technological Applications: Rehabilitation Services</b> 2 Cr. Applications of technology to assist persons with disabilities in vocational and independent living situations using rehabilitation engineering principles/processes. Review of commercially available aids and assistive devices, and alternative control/interfacing procedures. Introduction to problem solving/design process as related to persons with disabilities. F-W</p>	<p><b>459-661 Forensics for the Rehabilitation Professional</b> 2 Cr. Orientation to terminology and practices associated with private sector rehabilitation. Materials specific to working with insurance/litigation cases. Prerequisite: 308-132. W</p>	<p><b>459-706 Laboratory in Work Evaluation</b> 2 Cr. Laboratory experiences in the procedures and specific techniques of work evaluation. The course is normally taken in conjunction with the lecture course on work evaluation, 459-723 procedures of work evaluation. Special course fee. F-S</p>
<p><b>459-560 Technological Applications: Rehabilitation Services</b> 2 Cr. Applications of technology to assist persons with disabilities in vocational and independent living situations using rehabilitation engineering principles/processes. Review of commercially available aids and assistive devices, and alternative control/interfacing procedures. Introduction to problem solving/design process as related to persons with disabilities. F-W</p>	<p><b>459-670 Work Adjustment Services</b> 2-3 Cr. Principles and procedures of adjustment services. Emphasis upon the change and improvement of behavior. Supervised practical experience in interviewing, behavior observation, individual work adjustment planning, lesson plan development and report writing. Prerequisite: 459-101, or Graduate standing F-W-S</p>	<p><b>459-707 Practicum in Work Evaluation</b> 4 Cr. A supervised practicum experience in the evaluation and training center. The course is designed to provide integration of course material and practical application in working with disabled and disadvantaged clients. Prerequisites: 459-723, 459-610, 459-717 and 459-706, with grade B or better. F-W</p>

<p><b>459-708 Practicum in Rehabilitation Counseling</b> 3 Cr. 150 hours of supervised clinical experience in a rehabilitation setting. The student will perform entry level duties of a rehabilitation counselor. Prerequisites: 459-680, with a minimum grade of B W</p>	<p><b>459-783 Internship in Work Evaluation</b> 6 Cr. Supervised 10-week field practice in the techniques of vocational evaluation and work adjustment procedures. To be completed at selected vocational rehabilitation facilities capable of offering the student an adequate training experience. Prerequisites: 459-707, (grade B or better); advanced graduate standing; approval of instructor. W-S</p>	<p><b>479-561 Abnormal Psychology</b> 3 Cr. A study of more serious mental disturbances. Emphasis on the growing importance of mental disorders and on their early detection and referral is studied. F-W-S</p>
<p><b>459-709 Practicum in Work Adjustment</b> 3 Cr. Supervised practical experience in work adjustment; application of the techniques of work adjustment to the problems of clients in a rehabilitation facility. Prerequisites: 459-670, consent of instructor. 3 cr. in 459-670 with a grade of B or better, advanced graduate standing. W</p>	<p><b>459-785 Internship—Rehabilitation Facility Administration</b> 6 Cr. Practical administrative experience within a rehabilitation facility. Students will have practical experience in five or more of the following administrative areas—fiscal, personnel, production, marketing, contract procurement, developing grants and fund raising. Prerequisites: 459-705, approval of major director, with minimum of B grade W-S</p>	<p><b>479-570 Assertive Training Procedures</b> 2 Cr. Training in interpersonal behavior and communications in which persons learn to defend their legitimate rights without violating the rights of others. F-W-S</p>
<p><b>459-717 Occupational Analysis and Information</b> 2 Cr. Classification of occupations based on different criteria, methods of obtaining occupational information, methods of job analysis and establishment of worker requirements. Emphasis of courses on the needs, abilities and limitations of disabled persons. F</p>	<p><b>459-787 Internship in Rehabilitation Counseling</b> 6 Cr. The final clinical experience in the Rehabilitation Counseling concentration. 300 hours of on-the-job experience demonstrating competencies associated with professional rehabilitation counseling. Prerequisites: 459-708 and 413-788, both with a minimum grade of B, and consent of instructor. S</p>	<p><b>479-571 Introduction to Health Psychology</b> 3 Cr. Principles of psychology applied to the promotion of health and wellness; prevention of disease, injury and premature death; psychological treatment of illness; improvement of health care; and formation of health policies. Prerequisite: Consent of Instructor (usually requires 10 credits in psychology) F</p>
<p><b>459-723 Procedures of Work Evaluation</b> 3 Cr. Procedures of evaluating skills, aptitudes, dexterities, motivation, behavior work habits, tolerances in specific abilities or deficits of the handicapped. Methods of report writing. Review of research on work evaluation. Field trips to rehabilitation facilities in industries. F-S</p>	<p><b>459-789 Internship in Work Adjustment</b> 6 Cr. Supervised practical experience for practitioners/coordinators of work adjustment services. Prerequisites: 459-709, (Grade b or better); Advanced graduate standing; Approval of instructor. S</p>	<p><b>479-574 Psychology of Women</b> 2 Cr. The myths and stereotypes of early psychoanalytic view of women, critical issues and events of female experience, from prenatal through adulthood; meaning of sexuality, contemporary life styles, and the meaning of aging. Prerequisite: 479-110. F-W</p>
<p><b>459-737 Vocational Rehabilitation of the Mentally Ill</b> 2 Cr. Preparation in the process of vocational rehabilitation of the psychiatrically disabled. Personality development and theory will be reviewed. Emphasis will be on understanding psychiatric disabilities and the process of vocational reorientation of persons suffering prolonged mental illness. Prerequisite: 479-561 or consent of instructor W</p>	<p><b>479-530 Psychology of Learning</b> 3 Cr. A course designed to acquaint the student with the principles of learning drawn from experimental and theoretical psychology. These principles are demonstrated as they apply to animal and human learning. Modern viewpoints toward theories of learning are emphasized. F</p>	<p><b>479-579 Public Relations</b> 2-3 Cr. Introduction to public relations in industry and education including community relations, employee relations, customer relations, media relations, tools of public relations, two-way communications, and special publics. Prerequisite: For 3 credit option students must be enrolled in the WIS Study Center F-W-S</p>
<p><b>459-755 Problems in Vocational Rehabilitation</b> 2 Cr. Identification, selection and completion of a problem in the specialization area of vocational evaluation. The problem project will culminate in a Plan B paper. Prerequisite: 421-740. F-W-S</p>	<p><b>479-535 Motivation and Emotion</b> 3 Cr. An experimentally oriented introduction to the fundamental principles of motivation and emotion. Prerequisites: 479-110, junior standing and 9 or more credit hours in psychology consent of instructor. W</p>	<p><b>479-581 Industrial Psychology</b> 2 Cr. A survey of the application of psychological principles of man's vocational pursuit. Emphasis is on individual differences and group behaviors which are involved in personnel selection, human factors engineering, industrial safety, motivation, personnel training, and consumer behavior. Course material is based primarily upon the latest behavioral science research in the field of industrial psychology. Prerequisite: 479-110. F-W</p>
<p><b>459-770 Thesis - Vocational Rehabilitation</b> 6 Cr. Independent research under direction of investigation adviser. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. Prerequisites: 421-740, approval of major director.</p>	<p><b>479-540 Psychology of Individual and Group Differences</b> 3 Cr. Nature and extent of differences in individuals and groups are studied. Intelligence, achievement, aptitudes, interests, attitudes, and general personality are the major differences included. Race, sex, nationality, social class and age in relation to individual differences are studied.</p>	<p><b>479-582 Human Resource Management</b> 3 Cr. Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation. F-W-S</p>
<p><b>459-780 Administration in Vocational Rehabilitation</b> 2 Cr. A lecture course covering the administrative aspects and methods involved in establishing and supervising a vocational evaluation unit or a total rehabilitation facility. Prerequisite: consent of instructor or Vocational rehabilitation major. W</p>	<p><b>479-552 Adolescent Psychology</b> 3 Cr. The physical, emotional, social, moral, and intellectual development of secondary school youth. Prerequisite: 479-110. F-W-S</p>	<p><b>479-601 Workshop—Special Topics in Psychology</b> 1-3 Cr. Current specialized topics studied in a small group setting utilizing experimental activities. Prerequisite: consent of instructor. Repeatable for credit.</p>

**479-602 Position and Salary Evaluation** 2 Cr. The determination of wages and salaries for differing jobs and positions. Legal issues of equal pay for comparable worth. W

**479-632 Perception** 3 Cr. This course serves as an introduction to human perception. The content of the course is structured around an information processing model, with the sensory and memory facilities considered as information systems. The student will analyze perceptual research, become familiar with classical and modern psychophysical techniques and conduct experimentation in human information processing. F

**479-673 Psychology of Stress** 2 Cr. Nature of stress and stress-related diseases, stress in daily life, techniques for managing stress, and plans for reducing stress in personal and professional life. F-W-S

**479-675 Right Brain** 2 Cr. The two hemispheres of the human brain. Exploration and experience in right hemisphere modes of consciousness, through techniques such as meditation, hypnosis, drawing, guided imagery and dreaming. W-S

**479-679 Advanced Public Relations** 2 Cr. Practice in planning and directing specific public relations programs, using the case problem approach. Prerequisite: 479-579 or consent of instructor W

**479-690 Psychological Measurement** 3 Cr. An introduction to the assumptions, models and applications of measurement techniques in behavioral science. Test analysis, item analysis, reliability, and validity are extensively covered. The course also introduces the student to prediction and measurement of attitudes and opinions. W

**479-730 Advanced Psychology of Learning** 2 Cr. The theories and principles of learning are studied with emphasis upon totalistic models of classroom learning. F-W-S

**479-760 Personality** 2 Cr. The nature of personality and the conditions which make for its wholesome development, its maintenance, and integration is studied. Personality inventories used for self-analysis are also studied. W-S

**479-850 Psychology of Development** 3 Cr. Investigation of individual man, his natures, and development with primary emphasis on the self and implications for education. Study aimed at analysis, synthesis, and evaluation levels through seminar approach.

## **SCHOOL PSYCHOLOGY**

**489-601 Brazelton Neonatal Behavioral Assessment** 2 Cr. Philosophy and technique of using the Brazelton Neonatal Behavioral Assessment Scale for evaluating infant personality and development. Prerequisite: Instructor permission

**489-701 Seminar—School Psychological Services** 2 Cr. Introduction to the field of school psychology. Roles and functions of the school psychologist are explored as they relate to Wisconsin and the nation; political and legal implication of these roles are identified. S

**489-731 Problems in School Psychology** 2 Cr. Independent investigation into a carefully delineated area of school psychological services in an attempt to bring evidence to bear on a problem. The use of research techniques is required. Reporting of the study is expected to meet the standards appropriate to scholarly writing by professionals in the field. Prerequisite: 421-740. F-W-S

**489-743 Advanced Individual Mental Testing** 2 Cr. An experience of supervised practice in the administration, scoring, and interpretation of individual tests of mental ability. Emphasis is directed toward the use of such evaluation of intelligence to case history material, the integration of related psychological findings, the determination of prognosis, and planning for the individual client. Prerequisite: 413-741. W

**489-745 Assessment of Personality (Projective Techniques)** 2 Cr. History, theory and methodological consideration and studies of projective instruments. Instruction in administration, scoring, and interpretation of some currently used devices leading to a knowledgeable understanding of the instruments. Prerequisites: 489-743 and 413-748. S

**489-753 Psychometric Theory and Application** 2 Cr. Introduction to psychoeducational theory and concepts in relation to inter- and intra-individual assessment. Covers basic statistics, in regard to test construction, test uses and misuses, test selection, purposes of testing, ethics, basic test interpretation processes and types of tests and testing programs frequently employed by psychoeducational specialists. F-S

**489-753A Lab—Guidance and Counseling Services** 1 Cr. Introduction to basic psychometric materials and techniques employed by counselors. Included are individual inventories, aptitude and achievement tests, problem surveys and other screening devices. F-S

**489-753B Lab—School Psychology** 1 Cr. Introduction to basic psychometric materials and techniques employed by school psychologists. Emphasis is placed upon individual mental tests and procedures. F

**489-766 Educational Applications of Neuropsychology** 2 Cr. The application of neuropsychological theory and assessment techniques to the education of children who possess cortical damage or dysfunction. Prerequisites: 489-753, 489-753B. S

**489-768 Diagnosis and Remediation of Learning Disabilities** 2 Cr. Develops expertise in understanding human information processing, the administration and interpretation of sophisticated psychological diagnostic instruments, and the prescription of appropriate and precise remediation. Current research in learning disabilities is examined and evaluated. Prerequisite: 413-748. W

**489-768A Learning Disabilities—Diagnosis and Remediation Lab** 1 Cr. Laboratory experience where administrative and scoring skills are developed in reference to instruments and techniques introduced in 489-768. Prerequisites: 489-743 and 489-768. W

**489-770 Thesis** 2-6 Cr. Independent research under direction of investigation advisor. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. Prerequisites: 421-740 and approval of major director. Repeatable for credit. F-W-S

**489-778 Psychoeducational Disability** 3 Cr. Etiology, characteristics, and Individual Educational Program (IEP) development for children with Exceptional Educational Needs (EEN) such as mental retardation, emotional disturbances, behavioral disorders, social/cultural deviation and multi-handicapping conditions. F

**489-781 Field Practicum in Psychoeducational Services I** 3 Cr. Provides the prospective school psychologist with the initial 'on site' experience of functioning as a school psychologist. Special educational evaluations, programming and introduction to complex cases and staffings. Prerequisites: 413-743 and 413-748. F-W

**489-782 Field Practicum in Psychoeducational Services II** 3 Cr. Provides continuing 'on site' experience of functioning as a school psychologist. Increased applications of expanded assessment skills, more complex diagnostic problems, intervention techniques and leadership roles within the placement setting. Prerequisite: 489-781. F-W

**489-784 Clinical Practicum in Psychoeducational Services 1-2 Cr.** This practicum course is designed to provide more intensive and extensive clinical experiences. Work with preschool children, post school young adults, school age children and their parents. Special assessment and intervention techniques are emphasized. Prerequisites: 489-743 and 411-748, F-W-S

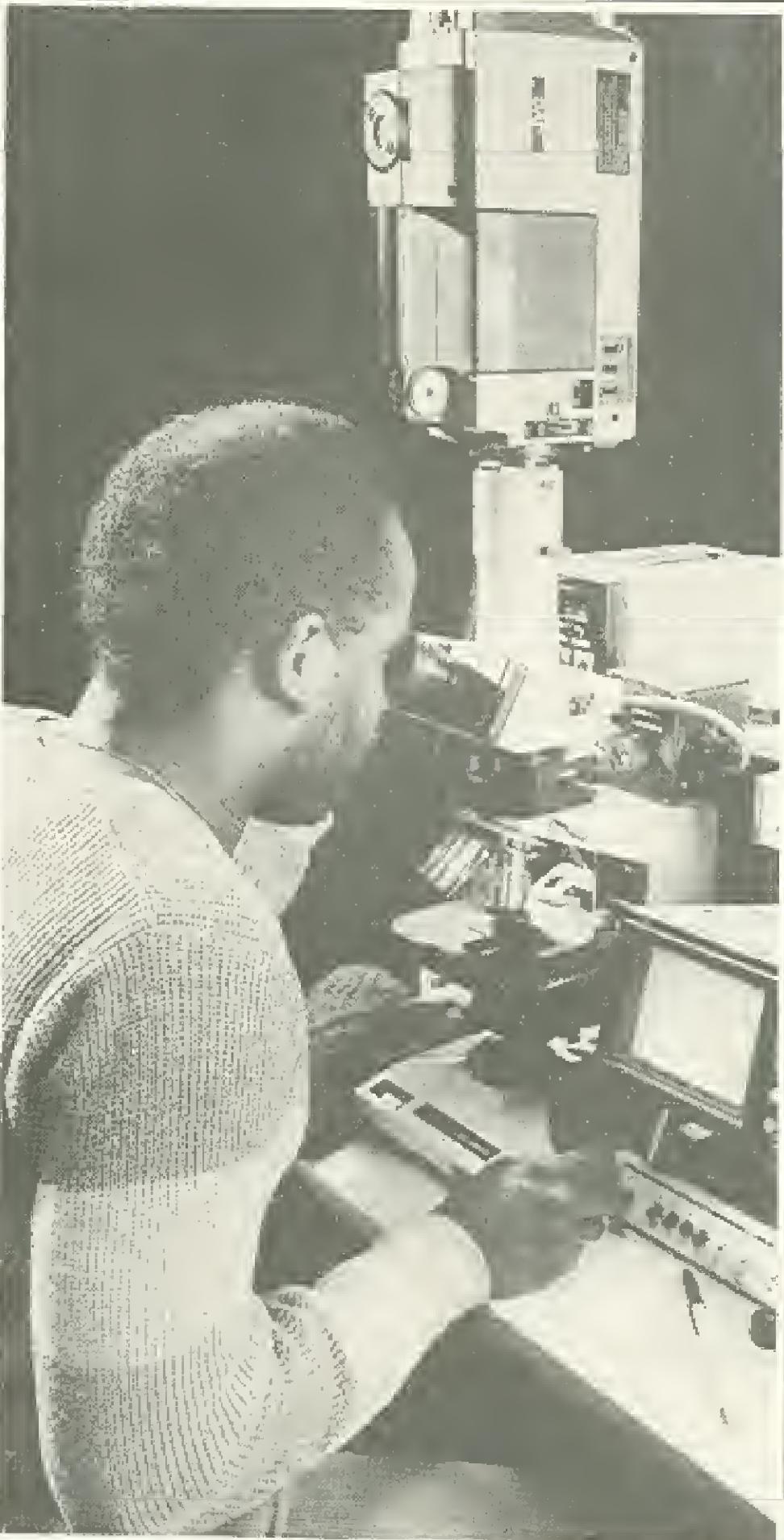
**489-785 Clinical Practicum—Psycho-educational Services II 2 Cr.** Provides integrative learning experiences into the role and style of function appropriate to the individual and the profession. Long term therapeutic contacts are required. Experience in one or more areas of specialization is available. Prerequisite: 489-784 F-W-S

**489-792 Internship in School Psychology 8 Cr.** The student will devote a minimum of 360 clock hours, full time (one quarter) in supervised internship experiences. The student will be working with a certified school psychologist in local area schools and/or other approved personnel in other approved situations; e.g., a counseling psychologist in the APA approved University Counseling Center. Prerequisite: Completion of the School Psychologist I Curriculum. Repeatable for credit.

## TRANSDISCIPLINARY

**580-735 Investigations 2 Cr.** A research experience which culminates in a Plan B paper. Prerequisites: 421-740 and admission to degree candidacy, F-W-S

**580-750 Thesis 2-6 Cr.** Independent research under direction of investigation advisor. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. Prerequisites: 421-740 and APPROVAL, OFF GRADUATE PROGRAM DIRECTOR Repeatable for credit. F-W-S-CB



# GRADUATE FACULTY

- Albrecht, Donna M. J., Home Economics, Professor, Ph.D. 1980, University of Minnesota; M.S. 1969, and B.S. 1968, University of Wisconsin-Stout.
- Allen, Charles T., Education and Human Services, Assistant Professor, M.S. 1969, Illinois State University; B.S. 1968, Quincy College.
- Amthor, William D., Industry and Technology, Professor, Ed.D. 1967, Texas A&M University; M.S. 1955 and B.S. 1950, University of Wisconsin-Stout.
- Anderson, Richard E., Student Services, Professor, Ed.D. 1967, University of Northern Colorado; M.S. 1962, and B.S. 1960, University of Wisconsin-Stout.
- Arora, Mehar, Industry and Technology, Professor, Ph.D. 1973, and M.S. 1965, University of Minnesota; M.A. 1952, Punjab University; B.A. 1949, Delhi University.
- Badenoch, Stowe, Home Economics, Associate Professor, Ph.D. 1986, and B.A. 1964, University of Minnesota.
- Bailey, Jr., Willard F., Liberal Studies, Associate Professor, M.A. 1963, and B.A. 1966, University of Minnesota.
- Baldwin, Thomas R., Industry and Technology, Professor, Ed.D. 1971, Texas A&M University; M.S. 1968, Kansas State College, Pittsburgh; B.S. 1967, Morehead State College.
- Barnard, Charles P., Education and Human Services, Professor, Ed.D. 1972, University of Wyoming; M.Ed. 1968, and B.S. 1966, University of Wisconsin-Superior.
- Baughman, Donald, Education and Human Services, Associate Professor, Ph.D. 1981, University of Illinois; M.A. 1969, New York University; B.S. 1968, University of Wisconsin-Madison.
- Bensen, M. James, Industry and Technology, Professor, Ed.D. 1967, Pennsylvania State University; M.S. 1963, University of Wisconsin-Stout; B.S. 1959, Bemidji State Teacher's College.
- Berkemer, Robert A., Industry and Technology, Assistant Professor, M.A. 1977, B.S. 1976, and B.F.A. 1971, Ohio State University.
- Biggerstaff, Edwin L., Education and Human Services, Professor, Ed.D. 1963, M.S. 1958, and B.S. 1957, North Texas State University.
- Bigony, Beatrice A., Liberal Studies, Professor, Ph.D. 1974, and M.A. 1968, University of Michigan; B.A. 1966, Lawrence University.
- Bizem, Hinda-Rose, Home Economics, Assistant Professor, Ph.D. 1985, and M.S. 1982, University of Nebraska; B.S. 1980, Ohio State University.
- Bjornerud, James, Industry and Technology, Professor, Ph.D. 1970, University of Minnesota; M.Ed. 1961, Ohio University; B.S., 1960, Bemidji State Teachers College.
- Bloedorn, Gene, Liberal Studies, Associate Professor, M.F.A. 1972, M.S. 1971, and B.S. 1965, University of Wisconsin-Madison.
- Botterbush, Jr., Karl, Education and Human Services, Professor, Ph.D. 1974, George Washington University; M.A. 1966, University of Pittsburgh; B.A. 1965, Elizabethtown College.
- Breisch, Fred, Liberal Studies, Associate Professor, M.A. 1956, and B.A. 1955, University of Michigan.
- Burgermeister, James, Home Economics, Assistant Professor, M.S. 1974, University of Wisconsin-Milwaukee; B.S. 1971, University of Wisconsin-La Crosse.
- Byrd, James, Education and Human Services, Associate Professor, Ph.D. 1975, University of Texas; B.S. 1970, University of Georgia.
- Carlson, Oscar, Liberal Studies, Professor, Ph.D. 1967, and M.S. 1960, Iowa State University; B.S. 1958, Buena Vista College.
- Carlson, Jr., Wallace C., Industry and Technology, Associate Professor, Ph.D. 1988, University of Northern Iowa; M.S. 1982, University of Wisconsin-Stout; B.S. 1980, Winona State University.
- Chatman, Donald, Industry and Technology, Associate Professor, M.A. 1975, Occidental College; M.S.D. 1972, University of Chicago; M.T. 1957, Mt. Sinai Hospital; B.S. 1973, State University of New York.
- Coffey, Darrell D., Education and Human Services, Professor, Ed.D. 1978, Auburn University; M.A. 1949, and B.A. 1948, University of Iowa.
- Collier, James A., Industry and Technology, Professor, Ed.D. 1973, Texas A&M University; M.S. 1965, University of Wisconsin-Stout; B.S. 1962, Ball State Teachers College.
- Cook, David R., Education and Human Services, Professor, Ed.D. 1959, and M.S. 1954, Indiana University; B.S. 1951, Boston University.
- Coomer, Jerry Wayne, Industry and Technology, Professor, Ph.D. 1971, and M.S. 1969, Purdue University; B.S. 1965, University of Wisconsin-Stout.
- Corthell, David W., Education and Human Services, Professor, Ed.D. 1971, University of Northern Colorado; B.A. 1955, Willamette University.
- Coufal, Jeanette D., Home Economics, Associate Professor, Ph.D. 1975, and M.S. 1971, Pennsylvania State University; B.S. 1966, University of Nebraska.
- Dahlke, Lorraine C., Home Economics, Professor, Ph.D. 1965, Ohio State University; M.S. 1956, State University of Iowa City; B.A. 1950, University of Minnesota; B.A. 1948, University of Wisconsin-Madison.
- Davis, Gerald F., Education and Human Services, Professor, Ed.D. 1983, U.S. International University; M.S. 1962, University of Wisconsin-Stout; B.S. 1951, La Crosse State College.
- Deutscher, John C., Education and Human Services, Professor, Ed.D. 1966, University of North Dakota; M.S. 1962, University of Wisconsin-Stout; B.S. 1959, University of Wisconsin-Eau Claire.
- Dobrunz, Carol Ann, Liberal Studies, Professor, Ph.D. 1973, University of Oregon; M.S. 1964, University of Michigan; B.S. 1957, University of Wisconsin-La Crosse.
- Dougherty, Gerane T., Liberal Studies, Professor, Ph.D. 1969, and M.A. 1962, Universite Laval; M.A. 1959, St. Mary's College; B.A. 1952, College of St. Teresa.
- Entorf, John F., Industry and Technology, Professor, Ed.D. 1967 and M.Ed. 1966, Texas A&M University; B.S. 1957, Northern Montana College.
- Evans, Robert E., Liberal Studies, Associate Professor, M.A. 1965, and B.A. 1963, Montana State University.
- Face, Wesley L., Academic Affairs, Professor, Ed.D. 1963, University of Illinois; M.S. 1956, University of Wisconsin-Stout; B.S. 1951, Northern State College.
- Feldman, Howard, Education and Human Services, Associate Professor, Ed.D. 1973, Ed.M. 1971, and B.S. 1948, Boston University.
- Fenton, Paul W., Education and Human Services, Assistant Professor, M.S. 1968, and B.S. 1964, Illinois State University.
- Flug, Eugene R.F., Education, Professor, Ph.D. 1967, M.A. 1959, B.S. 1959 and B.A. 1949, University of Minnesota.
- Franklin, Thomas E., Education and Human Services, Professor, Ph.D. 1975, West Virginia University; M.Ed. 1972, Bucknell University, B.A. 1967, Randolph-Macon College.
- Fraser, Annette J., Home Economics, Assistant Professor, Ph.D. 1985, Texas Women's University; M.S. 1977, Utah State University; B.S. 1972, Rosary College.
- Fry, Ronald R., Education and Human Services, Assistant Professor, M.S. 1984 and 1969, University of Wisconsin-Stout; B.A. 1963, Coe College.
- Ganzemiller, Jack, Industry and Technology, Associate Professor, M.S. Ed. 1963, Purdue University; B.M.E. 1957, General Motors Institute.
- Garb, Frances, Liberal Studies, Assistant Professor, Ph.D. 1982, North Dakota State University; M.S. 1964, University of Michigan; B.A. 1963, Alma College.
- Gartner, William C., Home Economics, Associate Professor, Ph.D. 1981, Michigan State University; M.S. 1976, University of Delaware; B.S. 1974, Michigan State University.
- Gébhart, Richard, Industry and Technology, Professor, Ed.D. 1971, University of Missouri; M.S. 1960, and B.S. 1958, Northern State Teacher's College.
- Gehring, Glenn, Industry and Technology, Professor, Ed.D. 1970, University of Illinois; M.S. 1960, University of Wisconsin-Stout; B.S. 1959, South Dakota State College.
- Gilbertson, Carlyle W., Education and Human Services, Professor, Ph.D. 1966, and M.S. 1960, University of Wisconsin-Madison; B.A. 1957, Luther College.
- Gill, Sandra J., Home Economics, Professor, Ed.S. 1983, Washington State University; M.S. 1967, and B.S. 1963, University of Wisconsin-Stout.

Graf, David L., Industry and Technology, Professor, Ed.D. 1974, University of Nebraska; M.S. 1971, University of Wisconsin-La Crosse; B.S. 1968, University of Wisconsin-Oshkosh.	Hopkins-Best, Mary, Education and Human Services, Associate Professor, Ed.D. 1982, Virginia Polytechnic Institute and State University; M.S. 1977 and B.A. 1975, University of Wisconsin-Stout.	Krueger, Charles T., Industry and Technology, Associate Professor, M.S. 1969, and B.S. 1968, University of Wisconsin-Stout.
Hadidi, Nasser, Home Economics, Professor, Ph.D. 1968, Virginia Polytechnical Institute; B.S. 1965, University of Beirut.	Hoyt, Robert L., Student Services, Professor, Ph.D. 1972, M.A. 1966, and B.S. 1963, Northwestern University.	Kufahl, Marvin M., Industry and Technology, Professor, Ed.D. 1974, Michigan State; M.S. 1956, and B.S. 1955, University of Wisconsin-Stout.
Hagaman, Joseph G., Learning Resources, Professor, Ph.D. 1976, Michigan State University; M.Ed. 1969, University of Pittsburgh; B.S. 1966, Indiana University of Pittsburgh.	Huffman, Priscilla K., Home Economics, Professor, Ph.D. 1972, Florida State University; M.S. 1968, and B.S. 1963, University of Wisconsin-Milwaukee.	Langton, Anthony J., Education and Human Services, Assistant Professor, M.S. 1970, University of Wisconsin-Stout; B.A. 1968, San Jose State College.
Hall, R. Pinckney, Student Services, Professor, Ph.D. 1973, and M.A. 1966, Northwestern University; B.A. 1964, Earlham College.	Hunt, John R., Liberal Studies, Professor, D.A. 1980, University of Northern Colorado; M.S. 1969, and B.S. 1967, University of Illinois, Urbana.	Lee, Howard, Industry and Technology, Associate Professor, Ph.D. 1981, University of Minnesota; M.S. 1969, and B.S. 1968, University of Wisconsin-Stout.
Halmstad, Richard E., Education and Human Services, Associate Professor, M.S. 1968, University of Wisconsin-Stout; B.S. 1963, University of Wisconsin-Eau Claire.	Ingram, Terrance R., Industry and Technology, Professor, Ph.D. 1976, and M.Ed. 1964, Miami University; B.S. 1960, Wisconsin State University-Oshkosh.	Long, Dean E., Industry and Technology, Associate Professor, M.S. 1965, Bradley University; B.S. 1960, Texas Technical College.
Hansen, Raymond, Industry and Technology, Professor, Ph.D. 1978, University of Wisconsin-Madison; M.S. 1968, and B.S. 1963, University of Wisconsin-Stout.	Jafari, Jafar, Home Economics, Associate Professor, Ph.D. 1985, University of Minnesota; M.S. 1973, Cornell University; B.A. 1965, University of Isfahan; B.S. 1970, Cornell University.	Lynch, Renee D., Home Economics, Assistant Professor, Ph.D. 1983, Texas Women's University; B.S. 1979, Southwest Texas State University.
Hanson, Bette A., Home Economics, Professor, Ph.D. 1979, University of Illinois; M.S. 1968, and B.S. 1955, University of Wisconsin-Madison.	James, Margaret Ann, Home Economics, Professor, Ed.D. 1975, North Carolina State University; M.S. 1957, and B.S. 1948, University of Wisconsin-Madison.	Maglio, Joseph A., Industry and Technology, Assistant Professor, M.S. 1978, University of Wisconsin-Stout; B.S.E. 1970, and B.B.A. 1967, University of Wisconsin-Whitewater.
Hare, Janette, Home Economics, Assistant Professor, Ph.D. 1986, and M.Ed. 1976, Oregon State University; B.A. 1969, Maryhurst College.	Jax, Judith A., Home Economics, Professor, Ph.D. 1981, University of Minnesota; M.S. 1966, and B.S. 1963, University of Wisconsin-Stout.	Mahan, Rita T., Home Economics, Professor, Ph.D. 1972, University of Wisconsin-Madison; M.S. 1963, and B.S. 1960, University of Wisconsin-Stout.
Hartz, Roger L., Industry and Technology, Assistant Professor, Ed.D. 1982, Western Michigan University; M.S. 1972, and B.S. 1964, St. Cloud State College.	Jenson, Gust, Education and Human Services, Professor, Ph.D. 1975, University of Minnesota; M.A. 1964, and B.S. 1963, University of Missouri.	Maki, Eino, Liberal Studies, Associate Professor, M.S. 1962, University of Wisconsin-Madison; B.S. 1957, Ferris Institute.
Heintz, Kenneth, Home Economics, Professor, Ed.D. 1970, and M.Ed. 1965, University of New York; B.S. 1965, Lowell Textile Institute.	Jocelyn, Joy A., Home Economics, Assistant Professor, Ph.D. 1984, University of Oregon; M.A. 1966, New York University; B.S. 1962, Hunter College.	Marion, Marian C., Home Economics, Professor, Ph.D. 1976, Ohio State University; M.S. 1971, University of Missouri; B.S. 1968, University of Delaware.
Hendricks, Robert W., Industry and Technology, Associate Professor, Ph.D. 1986, Ohio State University; M.S. 1978, and B.S. 1975, University of Wisconsin-Stout.	Johnson, Duane A., Industry and Technology, Professor, Ed.D. 1972, University of South Dakota; M.S. 1964, and B.S. 1961, Northern State College.	McGuirk, Philip H., Home Economics, Assistant Professor, M.S. 1981, and B.S. 1976, University of Wisconsin-Stout.
Herbert, Harry A., Learning Resources, Professor, Ed.D. 1974, Indiana University; M.S. 1964, University of Wisconsin-Stout; B.S. 1962, Bowling Green State University.	Johnson, Stanley A., Industry and Technology, Associate Professor, M.B.A. 1969, University of Wisconsin-Madison; B.S. 1967, University of Wisconsin-Eau Claire.	McIntosh, Michael K., Home Economics, Assistant Professor, Ph.D. 1987, University of Georgia; M.S. 1983, University of Alberta; B.S. 1973, Ohio University.
Herr, James F., Industry and Technology, Professor, Ed.D. 1970, University of Missouri; M.S. 1965, and B.S. 1961, University of Wisconsin-Stout.	Jones, Gordon G., Learning Resources, Professor, Ph.D. 1975, and M.S. 1971, Washington State University; M.Ed. 1962, and B.S. 1961, North Dakota State University.	McNaughton, David, Student Services, Professor, Ph.D. 1964, and M.Ed. 1963, University of Wyoming; B.S. 1960, University of Wisconsin-Stout.
Herr, Judith, Home Economics, Professor, Ed.D. 1982, University of Minnesota; M.S. 1967, and B.S. 1965, University of Wisconsin-Stout.	Keil, Janice M., Home Economics, Professor, Ph.D. 1968, Michigan State; M.A. 1956, University of Arkansas; B.A. 1955, Monmouth College.	Menz, Fredrick, Education and Human Services, Professor, Ph.D. 1971, and M.S. 1967, University of Illinois; B.S. 1965, Illinois State Normal University.
Hines, Max M., Home Economics, Assistant Professor, Ph.D. 1983, University of Minnesota; M.S. 1974, University of Wisconsin-Oshkosh; B.S. 1967, University of Wisconsin-River Falls.	Keil, Raymond, Industry and Technology, Professor, Ph.D. 1966, Michigan State University; M.Ed. 1956, University of Arkansas; B.S. 1955, Bradley University.	Metelka, Charles, Home Economics, Professor, Ph.D. 1969, Northwestern University; M.A. 1967, University of Hawaii; B.S. 1964, Loyola University.
Hofer, Armand G., Industry and Technology, Professor, Ed.M. 1963, University of Minnesota; M.Ed. 1954, University of Missouri; B.S. 1950, Northwest Missouri State Teachers.	Kirsling, Jerry J., Education and Human Services, Assistant Professor, M.S.Ed. 1971, University of Wisconsin-Stout; B.A. 1959, Holy Cross Seminary.	Mielke, Eugene D., Home Economics, Assistant Professor, M.S. 1966, and B.S. 1964, University of North Dakota.
Hoffman, Paul, Education and Human Services, Professor, Ed.D. 1965, University of Arizona; B.A. 1959, University of Maine.	Clitzke, Louis L., Education and Human Services, Professor, Ed.D. 1960, and M.A. 1956, Colorado State College; B.A. 1953, Southwestern College, Kansas.	Miller, Richard, Liberal Studies, Professor, Ed.D. 1968, University of South Dakota; M.S. 1958, North Dakota State University; B.S. 1953, Moorhead State Teachers College.
Hogstad, Carol, Education and Human Services, Associate Professor, M.S. 1968, and B.S. 1950, University of Wisconsin-Stout.	Koepke, Leslie Ann, Home Economics, Associate Professor, Ph.D. 1982, Florida State University; M.A. 1977, Bradley University; B.S. 1976, Kansas State University.	Misfeldt, Harlyn, Education and Human Services, Associate Professor, Ed.S. 1979, M.S. 1963, and B.S. 1959, University of Wisconsin-Stout.
Holland, Joseph W., Home Economics, Assistant Professor, J.P.D. 1986, University of Wisconsin-Madison; B.S. 1976, University of Wisconsin-Stout.		Modahl, Thomas, Education and Human Services, Professor, Ed.D. 1979, University of Northern Colorado; M.S. 1971, University of Wisconsin-Stout; B.A. 1964, University of Minnesota.

<p>Moegenburg, Louis A., Industry and Technology, Professor, Ed.D. 1969, Texas A&amp;M University; M.S. 1966, and B.S. 1962, University of Wisconsin-Stout.</p> <p>Mueller, William J., Liberal Studies, Professor, Ph.D. 1970, University of Idaho; M.S. 1966, and B.C. 1964, University of Minnesota.</p> <p>Muller, Arthur E., Industry and Technology, Professor, Ed.D. 1972, Colorado State; M.S. 1965, and B.S. 1962, University of Wisconsin-Stout.</p> <p>Nelson, George, Liberal Studies, Professor, M.S. 1966, Colorado State University; B.S. 1957, Wisconsin State University-Superior.</p> <p>Nelson, Orville W., Industry and Technology, Professor, Ph.D. 1967, and M.A. 1958, University of Minnesota; B.S. 1956, University of Wisconsin-Stout.</p> <p>Nero, Wayne, Industry and Technology, Professor, Ph.D. 1981, University of Minnesota; Ed.S. 1977, University of Wisconsin-Stout; M.B.A. 1969, University of Wisconsin-Madison; B.S. 1968, University of Wisconsin-Stout.</p> <p>Nicholls, Leland L., Home Economics, Professor, Ph.D. 1972, University of Tennessee; M.A. 1967, and B.A. 1963, Colorado State College.</p> <p>Ninneman, Thomas R., Liberal Studies, Professor, Ph.D. 1972, University of Wyoming; M.S. 1968, University of Wisconsin-La Crosse; B.A. 1950, University of Notre Dame.</p> <p>Olson, Donald E., Industry and Technology, Associate Professor, Ph.D. 1979, University of Minnesota; M.S. 1968, University of Colorado; B.S. 1966, Milwaukee School of Engineering.</p> <p>Olson, John H., Industry and Technology, Professor, Ph.D. 1982, University of Minnesota; M.S. 1974, University of Wisconsin-Stout; B.S. 1964, University of Wisconsin-Platteville.</p> <p>Ondrus, Martin G., Liberal Studies, Professor, Ph.D. 1972, University of Iowa; B.A. 1967, Hope College.</p> <p>Pamperin, Bruce F., Liberal Studies, Associate Professor, Ph.D. 1982, and M.S. 1978, University of Wisconsin-Madison; B.S. 1972, University of Wisconsin-Stevens Point.</p> <p>Peltier, George, Industry and Technology, Assistant Professor, Ed.S. 1971, University of Wisconsin-Stout; M.A. 1964, and B.A. 1961, Central Michigan University.</p> <p>Pershern, Anita, Home Economics, Assistant Professor, M.S. 1971, University of Wisconsin-Stout; B.A. 1955, St. Olaf.</p> <p>Pershern, Frank R., Industry and Technology, Professor, Ed.D. 1967, Texas A&amp;M University; M.S. 1960, University of Wisconsin-Stout; B.S. 1956, St. Cloud Teachers College.</p> <p>Peter, Richard, Industry and Technology, Professor, Ph.D. 1970, Ohio State University; M.E. 1960, Colorado A&amp;M College; B.A. 1955, Holy Cross College.</p> <p>Peter, Virginia, Education and Human Services, Professor, Ph.D. 1966, and M.A. 1963, University of Colorado; B.A. 1959, Alverno College.</p> <p>Prichard, Neal W., Industry and Technology, Professor, Ed.D. 1962, Pennsylvania State University; M.A. 1958, and B.S. 1954, University of Minnesota.</p>	<p>Pruitt, Walter, Education and Human Services, Professor, Ed.D. 1968, Colorado State College; M.A. 1961, and B.A. 1951, University of Denver.</p> <p>Rains, Mary Jane, Education and Human Services, Associate Professor, Ph.D. 1976, University of Toledo; M.S. 1968, and B.S. 1967, Indiana State University.</p> <p>Reeg-Steidinger, Jana, Learning Resources, Assistant Professor, M.A. 1977, University of Minnesota; B.A.Ed. 1973, Wayne State College.</p> <p>Reynolds, William M., Education and Human Services, Assistant Professor, Ed.D. 1986, University of Rochester; M.S. 1980, State University of New York; B.A. 1975, Roberts Wesleyan College.</p> <p>Riordan, Daniel G., Liberal Studies, Professor, Ph.D. 1973, and M.A. 1968, University of North Carolina; B.A. 1966, St. Edwards University.</p> <p>Ritland, Michael D., Education and Human Services, Professor, Ed.D. 1968, and M.A. 1963, University of Northern Colorado; B.A. 1960, Luther College.</p> <p>Ruenger, Eugene, Liberal Studies, Assistant Professor, M.P.H. 1979, and M.S. 1974, University of Minnesota; B.A. 1972, Macalester.</p> <p>Runnalls, James J., Industry and Technology, Professor, Ed.D. 1965, University of Missouri; M.Ed. 1956, Colorado A&amp;M College; B.S. 1951, University of Wyoming.</p> <p>Runnalls, Nelva G., Academic Affairs, Professor, Ph.D. 1966, University of Missouri; M.S. 1963, Mankato State College; B.S. 1951, Nebraska State Teachers College.</p> <p>Salt, Robert, Home Economics, Assistant Professor, Ph.D. 1987, Purdue University; M.S. 1982, and B.A. 1980, University of Maine.</p> <p>Samenfink, J. Anthony, Home Economics, Professor, Ed.D. 1956, Florida State University; M.Ed. 1951, University of Rochester; B.A. 1947, Middlebury College.</p> <p>Sampson, Jack B., Industry and Technology, Professor, Ed.D. 1966, University of North Dakota; M.S. 1957, University of Wisconsin-Stout; B.S. 1954, University of North Dakota.</p> <p>Sax, Arnold, Education and Human Services, Professor, Ed.D. 1969, and M.Ed. 1956, University of Houston; B.S. 1953, Bradley University.</p> <p>Schmidt, Reinhard O., Education and Human Services, Assistant Professor, Ed.D. 1972, University of South Dakota; M.Ed. 1961, University of Wisconsin-Superior; B.S. 1958, University of Wisconsin-Oshkosh.</p> <p>Schmitt, Sue A., Academic Affairs, Professor, Ed.D. 1984, Mississippi State University; M.Ed. 1971, University of Missouri; B.A. 1969, Viterbo College.</p> <p>Searle, A. Gary, Industry and Technology, Professor, Ed.D. 1977, University of Tennessee; M.S.T. 1972, University of Wisconsin-Whitewater; B.S. 1958, Austin Peay University.</p> <p>Sedgwick, Lorry K., Industry and Technology, Professor, Ph.D. 1965, Purdue University; M.S. 1961, Southern Illinois University; B.S. 1960, Kansas State College.</p> <p>Sedlak, Robert A., Academic Affairs, Professor, Ph.D. 1973, and M.Ed. 1970, Pennsylvania State University; B.S. 1968, California State College.</p>	<p>See, John, Education and Human Services, Associate Professor, Ph.D. 1972, University of Iowa; M.S. 1966, Los Angeles State College; B.S. 1961, University of California.</p> <p>Siebold, Bruce E., Industry and Technology, Professor, Ed.D. 1982, University of Minnesota; M.S. 1971, University of Illinois; B.S. 1970, University of Wisconsin-River Falls.</p> <p>Skinner, Denise A., Home Economics, Professor, Ph.D. 1983, University of Minnesota; M.S. 1973, University of Nebraska; B.S. 1971, University of Nebraska.</p> <p>Smalley, Lee H., Industry and Technology, Professor, Ed.D. 1962, Michigan State University; M.Ed. 1955, University of Maryland; B.A. 1950, Iowa State Teachers College.</p> <p>Smith, Charles E., Industry and Technology, Associate Professor, Ph.D. 1972, Michigan State University; M.S. 1968, Northern Illinois University; B.S. 1964, and 1962, University of Wisconsin-River Falls.</p> <p>Smolarek, Zenon T., Industry and Technology, Associate Professor, D.I.T. 1987, University of Northern Iowa; M.S. 1965, and B.S. 1964, University of Wisconsin-Stout.</p> <p>Speidel, Paul, Industry and Technology, Associate Professor, M.E. 1959, Colorado State University; B.S. 1951, University of North Dakota.</p> <p>Spinti, Robert, Industry and Technology, Professor, Ed.D. 1968, University of Missouri; M.S. 1957, and B.S. 1954, University of Wisconsin-Stout.</p> <p>Stallsmith, Douglas, Industry and Technology, Professor, Ed.D. 1975, University of Minnesota; M.A. 1966, and B.S. 1955, Miami University.</p> <p>Stephenson, Donald J., Education and Human Services, Professor, Ed.D. 1970, University of Missouri; M.A. 1968, Indiana State University; B.S. 1963, University of Wisconsin-Stout.</p> <p>Sterry, Leonard F., Industry and Technology, Professor, Ph.D. 1975, University of Wisconsin-Madison; M.S. 1975, and B.S. 1962, University of Wisconsin-Stout.</p> <p>Stevenson, John B., Academic Affairs, Professor, Ph.D. 1965, Ohio State University; M.D. 1972, Hamma School of Theology; M.Ed. 1963, and B.S. 1952, Wittenburg University.</p> <p>Stewart, Shirley, Education and Human Services, Assistant Professor, M.S. 1974, 1973, and B.S. 1970, University of Wisconsin-Stout.</p> <p>Stoudt, Calvin L., Education and Human Services, Professor, Ph.D. 1970, University of Wisconsin-Madison; M.Ed. 1961, Temple University; B.S. 1960, West Chester University.</p> <p>Thomas, Henry L., Industry and Technology, Professor, Ed.D. 1972, Colorado State College; M.S. 1963, and B.S. 1962, University of Wisconsin-Stout.</p> <p>Thurin, Susan M., Liberal Studies, Professor, Ph.D. 1979, University of Wisconsin-Milwaukee; M.A. 1966, Indiana University; B.A. 1963, College of St. Benedict.</p> <p>Timmer, Janice M., Home Economics, Associate Professor, Ph.D. 1982, North Dakota State University; B.S. 1976, Northern Arizona University.</p> <p>Timper, Hans E., Industry and Technology, Professor, Ed.D. 1972, Utah State; M.S. 1967, and B.S. 1966, University of Wisconsin-Stout.</p>
---	---	--

- Townsend, Mary Ann, Home Economics, Assistant Professor, Ph.D. 1970, and M.S. 1966, Texas Women's University; B.S. 1959, Our Lady of the Lake.
- Tyson, Richard J., Liberal Studies, Associate Professor, M.A. 1976, Syracuse University; B.A. 1972, Valparaiso University.
- Veletti, Willis L., Industry and Technology, Professor, Ed.D. 1974, Texas A&M University; M.A. 1959, State University of Iowa; B.A. 1953, University of Northern Iowa.
- Van Osdale, John, Academic Affairs, Associate Professor, M.S. 1965, Bradley University; B.S. 1959, Ohio University.
- Verdon, Ronald, Liberal Studies, Associate Professor, M.F.A. 1974, Syracuse University; B.S. 1972, University of Wisconsin-Stout.
- Weckmueller, Ned A., Industry and Technology, Assistant Professor, M.S. 1976, University of Wisconsin-Stout; B.A. 1972, University of Wisconsin-Milwaukee.
- Wesphal, John, Education and Human Services, Associate Professor, Ph.D. 1985, University of Northern Colorado; M.S. 1968, and B.S. 1967, University of Wisconsin-Stout.
- Winnomaki, Margaret, Education and Human Services, Assistant Professor, Ed.S. 1983, M.S. 1973, and B.S. 1970, University of Wisconsin-Stout.
- Williams, John M., Home Economics, Associate Professor, Ph.D. 1970, and M.S. 1972, Pennsylvania State University; B.A. 1957, Sacred Heart College.
- Williamson, Jr., Hugh P., Industry and Technology, Associate Professor, Ph.D. 1974, and M.B.A. 1969, University of Missouri; B.A. 1961, Westminster College.
- Wilson, Anita, Home Economics, Professor, Ph.D. 1971, Utah State University; M.S. 1965, and B.S. 1964, Kansas State University.
- Wilson, Richard, Liberal Studies, Associate Professor, Ph.D. 1971, Utah State University; M.S. 1965, and B.S. 1961, Kansas State University.
- Wood, Thomas J., Home Economics, Assistant Professor, Ph.D. 1972, Texas A&M University; M.S. 1967, and B.S. 1961, Stephen F. Austin University.
- Yost, Charles, Industry and Technology, Professor, Ph.D. 1984, University of Minnesota; Ed.S. 1976, University of Wisconsin-Stout; M.S. 1967, and B.S. 1966, Stout State College.
- Zimmerman, Gerald, Liberal Studies, Professor, Ph.D. 1973, M.S. 1968, B.S. 1963, Iowa State.
- Zimmermann, Karen, Home Economics, Profes-

